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Plate 1.

Natives of Wellington, New South Wales.

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OBSERVATIONS

ON THE

COLONIES

OF

NEW SOUTH WALES

AND

Van Diemen's Land.

26944 ac

BY JOHN HENDERSON.

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PREFACE.

When an individual submits to the Public the result of his observations regarding subjects, on which many of the readers have not had opportunities of examining the evidence that may have formed the foundation of his deductions, it is certainly advisable, that the latter should be made aware of the opportunities the Author has possessed of collecting such information; in order that he may appreciate, in some measure, the intrinsic value of what is intended to be communicated.

I proceeded to Van Diemen's Land from Bengal, in 1829, on account of my health; and after having recovered a portion of my usual strength, I made several short pedestrian excursions from Hobart Town into the interior of the country. So soon as I considered myself capable of undergoing the fatigue, I went across the Island, in the direction of Launceston; and then taking an Easterly course, towards the sea coast, I returned to Hobart Town, by Oyster Bay and Process Plains. I afterwards coasted along the eastern side of the Island; and made, during nearly a year's residence in the Colony, other pedestrian expeditions through the country.

Being naturally anxious to render my temporary visit as generally beneficial as the opportunities I possessed would admit, and being fully convinced of the great and mutual advantage which would result from the measure, I endeavoured to pave the way for officers from the East Indies, who might desire to form permanent settlements in these Colonies, instead of retiring to their native country, after their stated periods of service had been completed. Through the liberality of the Lieutenant-Governor, my first efforts were partially successful; but those which I afterwards attempted, having a similar object in view, were however by no means equally fortunate.

I next endeavoured to organize a Society, for the collection and publication of information peculiar to these Colonies; as well for the purpose of affording the world an opportunity of becoming more intimately acquainted with their productions and formation, as to bring to light their latent sources of wealth, for the benefit of the European emigrant. I experienced much more difficulty in this undertaking than I had previously anticipated; but aware of the superior advantages which might result from so powerful an engine, compared with what a single unassisted individual could accomplish, I conceived my time would be more usefully employed in the former attempt, than in personally endeavouring to collect a small proportion of the extensive materials. The enterprize at first ap-

peared to succeed far beyond my expectations, and on the Society being opened in 1830, it ranked amongst its members almost all the heads of the departments of the Government, as well as most of the respectable settlers throughout the Island. A paper containing a portion of what is mentioned, in the second and third chapters of the second part of this work, was read by me at the Opening Address; and although the latter has apparently no very intimate connection with the subjects of the present publication, I have not deemed it advisable to separate them, lest my reasons, for the line of investigation I have adopted, might chance to be misinterpreted.

On looking around, however, I soon perceived, that I had merely collected amongst the members, a number of spectators: and that few of these were capable, and fewer still were willing, without some personal advantage, to lend their assistance, in promoting the objects of the Institution. I was unable to supply any immediate remedy for so vital a defect; but being impressed with the conviction, that the only effectual one, however tardy its operation, must be derived from the extension of useful information, through all classes of the community, and observing, at the same time, the powerful influence which a body like this would possess, in carrying such a measure into execution, I strenuously directed their attention to the foundation of a National Seminary of Education, which should be commenced

under their own auspices, and that of the members of the Legislative Council. At first, the measure was unanimously acquiesced in; but jealousy and discord had already made serious inroads into the heart of our Society, whose component parts, on account of the generally insulated nature of colonial pursuits, were merely cemented to one another, by motives of selfish interest; and when the measure was now ready to be carried into active operation, its further progress was negatived by those very individuals, who had been distinguished in its previous stages as its warmest advocates.

Feeling anxious to call attention to the necessity of still adopting the same measure, I conceive myself justified in claiming attention to the plan I was then desirous of introducing; the more so, as I am satisfied, that at no distant period, some similar one must become indispensable, in consequence of the steady and rapid improvement, which is at present going forward amongst the different European nations. It was to have been begun on the smallest scale, and as no buildings were to have been constructed at its commencement, no other expence was to have been incurred than could have been defrayed with advantage by the relatives of the pupils. An addition of masters for new branches of science was to have been made annually; while preliminary schools, in connection with the first, were gradually to have been dispers-

ed over the country. So soon as the means had been afforded, it would have been necessary, in order to insure the full operation of these Institutions, that a certain and prescribed moiety of education should have been insisted on through means of a legislative enactment; and as these seminaries were improved, and the prejudices of the lower classes gradually eradicated, these regulations should likewise have undergone a corresponding alteration. The principal instruction communicated in the highest seminary was to have been the sciences, as they might exist at the particular period, after having been reduced to a simple and condensed form; and these should have been taught, in a fixed progressive order, as might appear best adapted to expand the mental faculties of the individual. Along with the above, professions and the principal arts and handicrafts should have formed a necessary portion of education; so that each student, whatever might be his future destination, might likewise possess a hand capable of executing what his mind had previously conceived. Lastly, although ample opportunities should have been eventually afforded of acquiring the foreign and ancient languages, as well as those branches in which real knowledge is not directly communicated; still these should no longer have been considered as either indispensable, or as unavoidable preliminaries to the acquirement of every description of useful information.

From Van Diemen's Land I proceeded to New South Wales; and continued to reside at Sydney for several months. With the view of examining the Geological formation of the country, and comparing it with Van Diemen's Land, I made another pedestrian excursion, in a westerly direction, into the interior of the country. Having arrived at Wellington, which is about 240 miles from Sydney, I remained there for some time, in order to observe the phenomena attending the deposition of those fossil remains which have lately been discovered in the Limestone Rock. Having, at the request of General Darling, prepared on his account, a collection of these for transmission to England, I addressed to him a Report on the subject; and the one here published, has been prepared from notes, which I happened to have retained in my possession.

As I have elsewhere mentioned, I had at this time some favourable opportunities of communicating with the natives in the vicinity; and understood from them, that they believed in the existence of a large Inland sea lying directly west, at a distance of 10 day's journey, or 200 miles from Wellington valley. They stated, on the authority of a westerly tribe, that the opposite shore was not visible, nor did they conceive that any other land was to be found, by crossing over in that direction. Upon the banks of this lake or inland sea, animals of a large and fearful size were said to be met with; congregating in herds: but it did not distinctly ap-

pear that they were considered to be carnivorous. I was induced to give some degree of credit to this account, from observing the general correctness of the statements of natives, when these related to local circumstances: and likewise, because it was in this instance corroborated by the geological structure of the country, as far as opportunities had been afforded me of observation. The stratum had evidently begun to decline to the westward and southward, and had assimilated more with the clay; the country had become swampy, and the soil had received into its composition a larger proportion of saline particles. The recent discoveries of Captain Sturt had proved that a salt-water river, opened into the Murrinbijjee, in a direction which corresponded with this account; while my own researches had also shewn, that a large piscivorous animal had existed, in considerable numbers, during former periods; indeed it seemed to me extremely probable, that this part of the report of the natives might have allusion to some new species of hippopotamus.

Having made my arrangements, I proposed to General Darling to proceed in that direction, for the purpose of investigating the truth of so important a fact; provided I might be furnished with four convicts, selected by myself, with surveying instruments, and all necessary provisions, &c.; these last items to have been supplied at my private expence.

The king of a westerly tribe was to have accompanied us, and as he was on friendly terms with the tribe, within whose hunting grounds this Inland Sea was said to be found, he seemed confident of our not receiving from them a hostile reception. As we were, however, to have been attended with other natives, and all of us at the same time to have been well provided with fire arms, I did not conceive, that with common precautions, we should have much to dread from the insidious assaults of the aborigines.

Aware that the chief difficulty in such expeditions, would be experienced in the carriage of supplies, and understanding that the country through which we had to pass contained abundance of kangaroos and emus, I proposed to have chiefly depended for subsistence on the animals which we ourselves or the natives might destroy. We should have taken along with us some superior kangaroo dogs, and I believed that there was but little chance of our ever being in want of oppossums. In case of necessity, a quantity of flour, tea, sugar, &c. was however to have been carried on bullocks, and these were to have been slaughtered for food, so soon as we might have occasion for them, after having consumed their burthens. I proposed to have proceeded on foot, as the marshy nature of the country at this season did not appear to be well adapted for any other mode of travelling; also

to have employed extensive bark boats, for transporting our baggage over such rivers as we were likely to meet with. Should we however have at length reached our destination, we intended to have immediately commenced preparing a canoe, out of the trunk of a tree; and we had calculated on this being accomplished within four or five days. Having affixed to it a keel, from materials we were to have carried along with us, we intended to have embarked, and endeavour to examine the limits of this salt-water Lake or Inland Sea, for a short distance in a northerly direction. We should afterwards have taken a southerly course, in order, if possible, to have discovered the communication of its waters with those of the Murrinbijjee; and having been so far successful, we proposed to have then returned, by sailing up this river, towards its source in the settled district of Argyle.

As my proposal did not appear to coincide with the views of Government, I next determined on proceeding from Wellington towards the river Hunter; and from thence to Sydney, by a mountain road which is now constructing. In addition to the opportunity thus afforded me of inspecting a settled district, situated in a somewhat warmer climate, I expected to have likewise corrected my previous observations on the geological structure of the country, by making another section of it, in

a more southerly direction. The distance by the shortest route, had been estimated at from 350 or 400 miles. This however by no means appeared to constitute the most formidable obstacle to our journey; for a considerable portion of our way lay through an uninhabited and extremely hilly country, which has hitherto been but little explored; and we likewise required to recross that lofty sandstone range from whence the rivers are observed to pursue opposite courses, according as they derive their origin, from the eastern or western aspect of the mountain. In addition to the above, I was disappointed in procuring a native guide, whom I expected to have accompanied me; and the pocket compass, I had employed in my other excursions, had also been unfortunately lost. I was however now become by practice tolerably well able to find my way through the forest, by calculating the proper direction from the position of the sun; and as I could not again expect to possess a second opportunity, I determined, in spite of these difficulties, on attempting to accomplish my present purpose.

A servant, a native of Hindostan, accompanied me in this expedition. The Macquarie river was highly flooded, while the current was rapid in the extreme. As I possessed no means of conveying our provisions across, we required to proceed about 20 miles further down the river, for the purpose

of obtaining the assistance of some natives, who were commonly to be found near a stock hut, which was then inhabited by Government convicts. Although we had carried along with us, in addition to our oppossum cloaks, six or seven days' provisions, this quantity had been reduced to nearly one-half ere we started from the opposite side of the river; in consequence of our being detained for several days at this place, partly from being unable to get across, and partly in the expectation of still procuring a native guide, to accompany us through the first portion of the journey.

Having crossed the river in a native boat, and perceiving that we had no longer a chance of procuring a guide to direct us, we lost no time in recommencing our expedition. The direction we required to pursue was east north east; and the sun being then considerably to the northward, it seemed by no means difficult to calculate this course, with a sufficient degree of accuracy. The weather had undergone a change, and in place of almost constant rain and snow, we had now merely slight spring showers, occurring after considerable intervals of sun-shine. We required to cross a range of mountains that appeared about eight or nine miles from the river. On the other side of this, we were told, we should find a large stream, whose waters form a portion of the Macquarie; and that by tracing this up towards its source, we

should speedily arrive at a pass through those blue mountains which constitute the principal line of division of the eastern side of the country. The former seemed at a little distance to possess no great elevation; but on surmounting the first hills, others of a much loftier description came immediately into view. These last were covered at their tops with one of the Australian species of pine; and owing to the steepness, it required us to employ our utmost exertion, in order to gain the nearest summit. Being the stronger of the two, and perhaps also more anxious to observe the landmarks from the opposite side, I happened to be considerably in advance, as we were just approaching this point. It will not, I imagine, be difficult to conceive my surprise at this moment, when on looking over the narrow crest of the mountain, the first objects that presented themselves were three bush-rangers, within a few yards of the place where I was ascending.

These men, however, did not seem to perceive me; but continued to move slowly along the other side of the crest. I therefore immediately considered that they must have traced our course from this elevation, as we proceeded along the plains; yet, as we were concealed from them during our ascent, they probably expected we should have issued from the forest at a less precipitous portion of the mountain. Not anticipating the probability of a

meeting of this kind, in a situation where provisions must have been procured with extreme difficulty, I was so little prepared, that my gun, the only weapon in our possession, had not been even charged. By making a circuit, I was enabled to communicate the information to my servant; and while in the act of loading, a dog gave us warning of the approach of other persons in the very direction we had previously taken. It was therefore tolerably evident, that we were now in the centre of a horde of outlaws: and this being probably one of the private retreats, frequented by them, whenever their depredations, amidst the settled districts, had excited a more than common vigilance in the authorities, it was not to be expected that they would permit us to pass, and thereby endanger their own lives, by betraying their secret to the Police.

It was therefore obviously necessary to avoid them, if possible; provided however we should be unable to effect this, we had determined on no account to have submitted, so long as we had any means of defence remaining in our possession. A narrow gorge or crest lay at a short distance on our right; and as a deep chasm divided the mountain it led to, from the one on which we then stood, I conceived we should yet have a fair chance of escape, provided we could reach this point unmolested. In this attempt we were suc-

cessful; and now aware of the accuracy with which even Europeans in this country can be habituated to trace a footstep, we lost no time in pursuing a devious course over the most intricate and rocky paths we could select. The sun had been set for some time, before we could reach the plains on the opposite side of the mountain. Near the foot of these we found a broad stream, highly flooded and flowing to the westward with considerable velocity. Here we made our arrangements for cooking, and for passing the night. Nothwithstanding the distance we had come, it appeared more than probable that we should still be closely pursued. In this case, the course of the river at which we had arrived, must necessarily be followed by both parties; while the glare cast on surrounding objects by our fire, would guide them directly to our position. We therefore deemed it prudent to rest at a little distance from it, in such a manner, that I might either be enabled to take a correct aim at their figures, as they approached between us and the light, or to observe their movements, so as to avoid them on the ensuing morning.

The night was cold in the extreme, a heavy dew continued to fall, and with only the thin covering of an oppossum's skin rug, our sensations were far indeed from enviable: the piercing cold, together with the peculiar circumstances in which

we were situated, rendered us particularly vigilant; and when for a few moments we happened to be overcome with fatigue, the shrill call of the opposum, or the midnight blast, that rushed at intervals through the foliage, was sufficient to arouse us from our slumbers. The morning star was therefore hailed by us with satisfaction, and ere the dawn had completely spread itself over the horizon, we were again prepared to recommence our labors.

Our course led us for some time along the banks of the river, through rich but narrow plains, surrounded on all sides by lofty ridges: there were, however, none of the common foot-paths present to indicate that these meadows had yet been discovered by the wild cattle, nor were there any burned trees to mark the line in which the aborigines were in the habits of traversing them. We soon reached a portion of the river where it received a large branch, which we afterwards found to flow from the east-south-east, although its direction was then apparently from the east-north-east. Had it been in my power, I should have preferred immediately crossing this stream; but the measure was abandoned because, although both of us were tolerably expert swimmers, the rapid current, combined with the cold, would have rendered it extremely hazardous; while it would in all probability have required us to sacrifice our provisions, as well as other necessaries, in making the attempt.

We had not proceeded many miles from this point, before the hills began to close in gradually towards the river; and as its waters commenced flowing from a more southerly direction, its bed became confined by precipitous mountains, which were rendered extremely slippery, by being covered with minute fragments of clay schistus. Our easiest path was found generally at a short distance up the mountain; but even there we could not advance without very considerable difficulty, along with some degree of danger. Sometimes we required to crawl on our hands and feet; sometimes to slide down the declivities, and to trust to some intervening tree or brush-wood, to prevent our being precipitated into the river, that now rolled onwards with the velocity of a mountain torrent.

We had been informed, at setting out, that we should this day have reached a solitary stock hut; but it was evident that we might in vain expect to meet with it, amidst regions such as those through which we were traversing. The direction we had been pursuing, I was aware, if continued, must have conducted us into a barren and mountainous country, situated between the rivers Hunter and the Hawkesburgh: and the time it would have required, in order to strike the road at that period constructing betwixt Newcastle and Sydney, could not, at the most moderate computation, have been less than eleven or twelve days. In this

calculation, I had also assumed, that we should be enabled to proceed in a more direct route; for in addition to the difficulties that have been mentioned, it was obvious, from the circuitous course of the bed of the river, that we had now to walk over upwards of four miles, for each one we advanced in real distance; and that, likewise, 45 degrees from our proper line of direction. We therefore came to the immediate resolution of suspending the further consumption of our provisions, excepting what would be absolutely necessary for the support of our existence; determining to trust to such accidental resources as we might meet with on the way, for the purpose of enabling us to continue the fatigue of the journey.

We were some time this evening in discovering a shelving part of the mountain, where the water could be procured with facility, and likewise sufficiently broad to permit of our going to sleep with safety. This was the only night, I believe, when either of us experienced any particular inconvenience from hunger. We also suffered somewhat from the cold; partly from having been too much exhausted to collect a sufficient supply of firewood, and partly owing to the diminution of temperature, which had been the consequence of an increased elevation. Next morning we succeeded in crossing the stream, and afterwards ascended a mountain on the opposite bank. The view

however, although extensive, afforded us but little satisfaction. Far as the eye could reach, no valley could be discerned, where the habitation of man might reasonably be expected; but mountain continued to peer over mountain, in dull cheerless monotony.

I must however hurry over the history of this expedition, the details of it being but slightly connected with the subsequent observations. Finding it almost impracticable to make any perceptible advance, either by pursuing the narrow ridges on the summit, or the tortuous gullies underneath, we were reluctantly obliged to return to the river, and to trace it upwards to its source. The mountains were gradually succeeded in its immediate vicinity, by low hills covered with tolerable pasture, and the paths of wild cattle were again observed to cross one another, in almost every direction. We likewise sometimes perceived several herds of these at a distance; but quadrupeds and birds appeared to be very sparingly distributed, and we only started a single kangaroo during the whole of our expedition. One day, however, I shot a black-colored bird, of the oriole kind, somewhat smaller than a magpie; and this, eked out with the feathers and bones, constituted the whole of our food for 24 hours. On another day, I likewise killed two more of the same species. Still there was a disagreeable reflection, that served as a counterpoise to the enjoyment,

which this partial success would have afforded; for the small quantity of powder I had brought with me to Wellington, had been nearly expended, previous to our departure; and on examination it was now discovered, that two charges composed the whole of our remaining supply.

I conceive, however, that we derived our principal support from the water; and it was probably owing to this cause, that on going to sleep at night, we used immediately to be covered with profuse perspiration, although at the same instant we might have been shivering from the cold. Perhaps, had we possessed a proper instrument, we should have succeeded in abstracting an oppossum from the crevices in the trees. We generally went in search of these animals when the light of the moon was brightest; but although we could distinctly hear them calling, we were always unsuccessful in discovering their exact position. This might be attributable to our want of perseverance in the pursuit; for as the moon happened to be on the wane, our joints had become painfully stiffened by the time of its appearance, both from the effects of cold and fatigue; so that even the natural desire to preserve existence, seemed no longer to be a sufficient inducement to additional exertion.

The morning of the fifth day found us still on the banks of the same stream, which had now however dwindled into a pretty rivulet. On the previous

evening, we had observed that high mountains were again extended on all sides of us, but more particularly towards the east; and I therefore entertained strong expectations that we were at length in the immediate vicinity of the great dividing range. The night had proved particularly chill, nor had we been able to procure any addition to our supply of food, during the whole of the previous day. We had however begun to remark, as we passed, the qualities of the different vegetable productions; and had we been longer in reaching a place, where we could obtain supplies, we had determined to try the effects of boiling, on certain of the lichens, as well as on the softer portions of the grass tree. Latterly in our search, we had not deemed it prudent to overlook even the frogs, and their bold and vigorous croakings begun to be listened to with particular attention: but they, as well as the oppossums, appeared to be indued with a capacity for concealment; and whenever we approached their watery habitations, they invariably ceased to favor us with their warblings.

Towards dawn, a heavy fall of snow took place, which covered the surface of the ground to some little depth. It had nearly extinguished our fire, and in this case, we should indeed have been sufficiently miserable; for we had no means remaining of again rekindling it. As the day broke, the sun was likewise so obscured that we could no

longer tell the proper direction, and were therefore obliged to remain in our present dreary bivouac, awaiting the partial dissipation of the clouds. Our strength had been somewhat exhausted by over-exertion; an œdematous swelling of the legs and ancles, probably occasioned by continued immersion in the water, had not subsided, as it formerly did, towards the morning; and our shoes, which had become twisted, from walking sideways along the mountain, now began to give us very considerable uneasiness.

Fortunately for us, the day however cleared up, so that we were once more enabled to quit our damp uncomfortable situation. Leaving altogether the stream, we now continued along the ridges, choosing those which corresponded the nearest to our proper line of direction. We found ourselves, in a short time, on the verge of a mountain precipice, which was separated in some measure from all the others; and a comparatively open country was seen far extending to the eastward. The view had indeed undergone a change, and was now become varied and beautiful. Lofty table mountains were visible in the distance; while others, crowned with spiral rocks, exhibited a wild and strangely grotesque appearance. Towards the north-east, however, the ground was gently undulating; and as the sun-beams at intervals burst from under the heavy clouds, we thought we could detect the

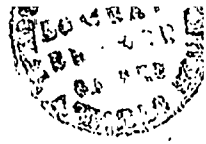
bright green traces of cultivation, contrasting with the sombre colors of the Australian foliage.

We again advanced cheerfully and rapidly, nor were we long in discovering a new source of satisfaction; for the whole of the rivulets, instead of as formerly flowing from the south-west, were now observed to run in a north-easterly direction. The pasture had also improved in quality; and towards noon, we observed the distinct footmarks of sheep, by which we became aware of our being at length in the vicinity of some European habitation. The rivulets were combining on all sides to form a stream, which had already attained a considerable breadth; and as we knew, that the stock huts are always erected near a permanent supply of water, we determined on continuing along the banks, at least during the remaining portion of this day. The sun was just setting, when we perceived a hut close by the edge of the water, and the pleasing sensations which this object afforded, tended in some measure to reward us for all our former privations.

We were most hospitably entertained by the proprietor, who resided a few miles further on; and we remained with him for several days, to recruit from our fatigues. I may likewise add, that we did not experience at this time any disagreeable consequences from the previous expedition. Although we had already completed above 150 miles

across a part of the country, considered to be scarcely passable, we found that we still should have to walk 350 miles further, before we could reach Sydney, by proceeding towards the river Hunter. The difficulties, however, in the second instance were greatly diminished, as our way was now to be through a settled country; that is to say, stock huts were generally distributed, at distances of from 10 to 15 miles asunder. We accordingly accomplished this part of the journey with comparative facility, and arrived at Sydney, without any other occurrence that requires to be related.

I have only one more remark to make, before bringing my labors to a conclusion. This work has been prepared for publication in Calcutta, under certain disadvantages. The reader may, therefore, discover throughout these pages numerous errors, that would not have occurred, had they received that polish, which is afterwards given to every production, before it emanates from any of the European establishments. I shall, however, willingly plead guilty to all these mistakes, provided my observations are generally considered to be correctly founded; and I shall feel myself sufficiently repaid for my exertions, if I should be fortunate enough to excite such an inquiry into these subjects, as may gradually tend to develope the true principles of colonization.



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CHAPTER I.

Preliminary observations.—Convict.—Policy of the Government towards him.—His expense.—Arrival and distribution.—Effects produced by his employment under Government.—His national character and education.—Emigration.—Inquiry regarding the legal powers under which he is placed, and the justice and policy of the present regulations.—Equality of the convict and settler.—Magisterial punishment.—Flogging, and its effects.—Iron gang ditto.—Penal settlements ditto.—Indulgences to the convict.—Policy with regard to the female convict.—National character.—Distribution of the female, and its effects.—Legal powers of control, and regulations regarding her.—Imprisonment.—Marriage.

On my arrival in Van Diemen's Land, and long afterwards, I could not help, in conjunction with others, admiring the progress which that colony had attained; but after more minute examination, and comparing it with New South Wales, I perceived that my first ideas had been erroneously founded, and that, so far from giving either of them credit for advancement, it was rather necessary to investigate the causes of general distress, which now, more particularly, affects the latter settlement. It was necessary to investigate, for instance, why the labor of the industrious settler had almost, invariably, brought him to ruin; why the price of stock had fallen far below the average of increase; why, after an enormous expenditure of capital, the returns were far less than might have been derived from a similar amount invested in England; and why property, generally, was steadily and rapidly depreciating in value.

All this, however, did not immediately occur to me. I observed the increase of population, and considered that as a decided indication of wealth: I remarked, that money produced a rent of from ten to twenty-five per cent. and deemed this to be a proof of the advantages derived from its investment. I perceived large imports, and many other things, all of which I believed to

be indications of increasing prosperity. Undeceived, at length, I began to investigate the causes of the distress, which existed in a country so peculiarly favored by nature; on which Great Britain had lavished so large a portion of treasure, and to which she had supplied an engine in the convict population, which should, of itself, have rendered her, ere this time, capable of making some adequate return to the mother country. Political economy, indeed, as regards a new colony, seems to be a subject almost entirely overlooked by Great Britain, notwithstanding the experience she has had in the foundation of so many; this is the more to be regretted, since, it will appear, that many errors committed on the first settlement of a new colony, cannot be afterwards corrected, and may frequently retard its progress for an unlimited time after the cause which excited the mischief, has been entirely removed.

In the investigation of this subject, the mode I adopted, in order to prepare its groundwork, was to consider the sovereignty as first lodged in the hands of an individual, or junction of individuals, who, engaging in the formation of a colony, constructed it on the best known principles of political economy, so as to distribute the greatest degree of human happiness through its increasing population; who should, at the same time, contain within themselves the power of producing wealth. In pursuing this subject, it is necessary to keep the mind, as far as possible, unfettered; the young colonist must have only natural obstacles to overcome; law, prejudice, and ancient custom, must be set aside, when they appear to require it, or when they interfere with his progress and improvement.

The line of reasoning, into which I was thus led, extended my views. I deemed it as a sort of copy of a picture, which had attained to a considerable state of perfection. I brought it into comparison with the present system, when the errors of the latter, which before were scarce visible, became glaring, and almost monstrous.

To describe this system, as it exists, and to lay open its errors and imperfections, is a task, indeed, uninviting; and though its results are important, I should have felt greater satisfaction in pursuing a lighter theme. I should, with perhaps more pleasure to myself and the generality of the world, have followed the course of the usual tourists, and described, with an impassioned pen, the lofty mountains, the meandering rivers, and the fairy scenery of Australasia. I could then have dwelt on the hospitality I have received; the improvements that were going forward; the welcome of my hostess, or the beauty of her offspring. I could have eulogised the climate, and the fertility of that gifted soil, which produces, even on her bare rocks, the loveliest of nature's flowers in interminable variety.

But the task I have chosen is of a sterner and more arduous nature. Mine is rather to shew the defects than the advantages; to exhibit things in their proper colors, when they are wrong; adding, at the same time, the plans I would propose for alleviating the injury they may produce. I cannot, indeed, for a moment, believe, that the whole of the many changes which I propose, will be all generally approved of, far less adopted; or that all the causes of which I complain, will be admitted to have produced the effects which are ascribed to them: but I do expect, that however my ideas on the subject may be received, the residents in those colonies will rise from the perusal of these pages, with different sentiments regarding their own interests, as individuals of a community, as well as with regard to the interests of the future generation.

I have travelled through a great portion of both colonies, for the purpose of obtaining information, and have taken more interest than almost any individual, in estimating the amount of their resources. I feel I have likewise an additional claim to be relieved from the accusation of presumption, in attempting this task, because, being but a temporary resident, I was unbiassed by the party feelings which are there almost proverbially, carried to extremes. I was not likely, also, to be subject to the many and deep-rooted prejudices and antipathies which are induced by long residence and narrowed observation. My object was, indeed, general information, instead of the particular kind which is most sought for in those parts; nor was what I desired to be easily procured. Nothing, indeed, is more striking to a person from India, than the general ignorance which prevails, through all parties, regarding the state and prospects of the country; for all are so engrossed in their own self-interest, that no information, which does not immediately concern it, is considered to be possessed of even the meanest value.

With regard to the following pages, those who take a pleasure in beholding, with a prospective eye, the progress of those colonies, will find them, I should imagine, both interesting and curious; but those who peruse them with an intention of ascertaining the propriety of fixing their residence in Australasia, ought also to read some of the numerous lighter works on the subject, when after comparing the two, the romantic panegyric will, in the language of the east, be chastened by being brought into contact with the cold hand of truth.

In conclusion, I would fain offer some apology, both for my arrangement and execution, neither of which I feel entirely satisfied with: the latter, however, I cannot help, and the former I prefer submitting as the ideas presented themselves to me; conceiving that, perhaps, by so doing, the chain of reasoning may

appear clearer, than by alterations which a second perusal would lead me to adopt. I have, it will be perceived, only touched on the more important topics, leaving the inferior ones for after consideration. I did, indeed, intend, in the commencement, to have gone more into minutiæ, but was deterred by the conviction, that the increased number of my pages would have deprived me of a great proportion of my readers. In this I feel sensible I have done right, since if the subjects are calculated to excite general interest, individuals will not be wanting to fill up with improvement the numerous empty spaces I have left.

The different details of a state are so intimately interwoven and conbined together, that it is difficult, at first, to fix on the proper portion to commence with; but as it is necessary to make a selection, I shall begin with the lowest individual, rising from him to the settler, and from thence to the different departments of the Government. With regard to the first subject, it is, in many cases, impossible to detach it from that of the settler, and I have, accordingly, been obliged to glance over certain portions, leaving them to be considered more fully, when we can view the convict and settler in combination.

Before referring to the original, it is necessary to examine our premises; we must first endeavour to ascertain the line of policy of the Government, and the principles on which we should, *a priori*, expect the convict population to be treated. The line of policy we ought to anticipate generally from a governor placed over a colony, by a British Government, may be, I think, defined in a few words, viz. *that he is to advance the interests of that colony to the utmost of his ability, expending thereon, for that purpose, the smallest possible amount of the resources of the mother country.* I am not aware that there is a necessity for making any addition to the above, which we shall adopt as our first position; neither am I aware that it requires the support of argument, since it seems to involve a self-evident principle. True, the local government may have other duties to perform to the mother country; but our first position is paramount, while the others are secondary; or in other words, the governor is, or ought to be relieved from the necessity of carrying such secondary measures into effect, when they at all appear to interfere with the interests of his charge. I can see, indeed, no cause why the mother country should possess the power of enforcing a measure for her own present advantage, which would be prejudicial to the colony: on the contrary, and after mature investigation, it will be clearly perceived, that however the temporary interests of the mother country might be advanced by such policy; whatever sacrifices a temporary ministry might exact, in order to retain the power of effecting changes in Great Britain, the interests of the mother coun-

try and the colonies are so intimately combined, that whatever tends to the progress or injury of the one, tends, likewise, to the reciprocal advantage or eventual injury of the other.

With this view of the general duty of the local government, we must next inquire, what is to be the line of policy with regard to the convict?

As the British Government supports this community, we shall first consider her individual objects, independent of the colony. In the language of the British Courts, the convicts are sent to Australasia for punishment, and they are expected to be punished during the periods of their respective sentences. It boots not at present to dispute the propriety of the term, although I am by no means a convert to the belief in the infallability of the British Criminal Code, or the philosophic principles upon which it is founded; we shall, therefore, take the convict as we receive him. Besides deprivation of his liberty, what further, then, does England want in apportioning the punishment. Is it his reformation? Suppose we could accomplish this, and that the convict, after the period of his sentence, returns a reformed, useful, and perhaps independent person, must we not guard against the risk, lest the advantage thus obtained by this convict, should stimulate others to follow his example? Direct attempts at reformation have been frequently attempted in the mother country, and have not these been invariably, in the general result, unsuccessful?

So much, therefore, for reformation, as regards the individual; now as it regards the expense attending such direct efforts. Are the people of England, groaning already under the oppression of taxes, to be further burthened by the expense of reformation, unconnected with any other object? Are the convicts to be pampered, well fed, and delicately treated, merely because they are vicious, while the poor and the industrious are permitted to starve? Are their situations, saving the loss of liberty and the infamy attending them, to be made such, as to excite the envy of the industrious labourer? Surely such policy is by no means for the interest of Great Britain, far less is it for the advantage of the colonies. *The joint line of policy of the British Government, and that of the colonies, appears therefore to me to be, to render them productive.*

Nor is this policy unconformable with reformation, since it has been proved to be the only direct path to it. The convict, in order to become productive to the greatest extent, must possess an interest in the produce; and experience has taught us, that steady employment and reasonable hopes of success held out through industry and perseverance, is the surest means of beguiling men from the commission of crime, to becoming useful members of society.

The proposed line of policy, as regards the colony, is evident; its wealth, its progress, and its happiness, depends upon

its productiveness. The convict population to her may, therefore, be considered in the light of an enormous engine exerting, to a great extent, both injurious and useful properties, in proportion to the ignorance, power and ability of the engineer to guide its motions.

The next question must be, Are the convict population at present productive, or not? for if they are so, the object of the Government has been attained; and if not, we must examine the premises, in order to find out the causes why they are not so. I shall here only attempt a general account. The transmission of the convict from Great Britain to the colonies, instead of constituting, as it ought to do, a moiety of the amount of capital invested, is paid by the mother country as part of her own disbursements. In New South Wales the expense to the Home Government, for the convict population, the Military, and other establishments attached to it, amounts to £120,000 per annum;—the total convict population being between 15 or 16,000, or £7 per man: in other words, the Government pay at the rate of *seven pounds* per man, per annum, for persons who have forfeited the right to remain in their own country: seven pounds per man, drawn from the resources of the industrious, to support the refuse of the population; while, at the same time, there are said to be millions from whom those resources are drawn, who would consider themselves in luxury, could they depend on such a sum for their subsistence.

But this is not the proper estimate of the expense of the convict population; for one-half of them are supported and clothed by the settlers, while a great portion of the remainder are only indebted to the country for their share of the expenses of the Government. Hence private capital is likewise employed in the support of the convict population, and we have afterwards to examine, whether its investment has, in that case, been productive. Now it would appear, that this expenditure of capital, which England bestows annually upon those colonies, cannot be supported upon any just principle of policy, and that, if no change can be adopted in Australasia, some other method of getting rid of England's convict population should be taken into consideration; that is, supposing that the amount required can neither be reduced, nor rendered otherwise directly serviceable to the mother country.

I shall here anticipate the result of my conviction, taken from a careful examination of the facts, so far as I possessed opportunities of investigation. 1st. I conceive that the expense of the convict establishment might be most materially reduced, and at length done away with; not by paltry savings in the salaries of the superintendents, but by a complete change of system. 2d. That the expenditure, in former times, has not only been injurious to the mother country, but so far from improving the new settlements, it has

decidedly tended to retard their progress. 3d. That the convict, under the present system, besides being expensive to the Government, is likewise expensive to the settler, and is by no means productive. 4th. That the general treatment of the convict has tended, in conjunction with other circumstances, materially to deprave the British character in these colonies; restraining the energies of the settler, and often throwing obstruction in the way of the Local Government. 5th. That the effects on the convict population, by admixture with the free, has been by no means proportional to the sacrifice of character made by the latter; also, that although removal from the scene of their crimes, to be placed in situations of comparative comfort and abundance, has had a salutary effect on a number of the convicts; the total want of check to the first steps towards relapse, and the sentiments of freedom and equality, inculcated by the legislature, have been most injurious to their general welfare; have caused an increase of crimes, with their corresponding punishments, and a waste of human blood by the hands of the executioner. 6th. That the modes of managing the convict population, have both directly, and indirectly, occasioned an increase of crime in Great Britain.

Let us now, however, turn to the reality of the case, in order to examine the sources from which those conclusions are drawn. When a prisoner is put on board ship, to be sent to New South Wales, every attention is paid to his comforts, and that at an expense, which is double of what would be required to send out a settler of the lower order. Were it not, therefore, for the partial privation of liberty; the convict possesses, at first, a considerable advantage over the free laborer. He even derives a certain benefit from the control, for being placed under the superintending surgeon, who is responsible for his conduct to his superiors, that officer becomes really his protector; whereas the laborer is under the Captain, and every petty officer, who are well known to be responsible to no one when "the vessel's keel has kissed the blue waters." To this, indeed, it may be urged, that the laborer is under the laws of his country, but this is indeed a poor protection. Law is not for the wise, it is for those who have time and money at their disposal; not the resort of the starving tradesman, who quits the place of his birth to obtain the necessaries of existence.

On the arrival of the convict, he is either assigned to settlers or to some superintendent of Government work. It will, however, prove a better arrangement to consider the convict, when assigned to a settler, under the head of settler, and confine our observation, at present, to the convict, separately, or when under the Government. It will be necessary, at the same time, to keep in mind, that these remarks are chiefly applicable to New South Wales, though by no means restricted to that colony.

When the convict remains in the service of the Government, the total expense of all those employed, with their overseers, &c. is found to be greater, considering the work performed, than it would be to settlers, notwithstanding that they are fed and treated better by the latter. From what I have observed, I believe, that convicts, in general, prefer being retained by the Government, rather than by private individuals; for though their food may not be so good or abundant, they have, generally speaking, less work to perform: but there is a still stronger inducement to prefer the Government, instead of a settler for a master, since the power of eventual reward in the hands of the former, is beyond what the settler possesses. They would also appear to be happier as Government servants. The Government is a stricter master, generally speaking; and strictness and regularity, on the part of the master, amongst a set of men who have been accustomed to set laws at defiance, is as requisite for the happiness of the convict as it is necessary for the prosperity of the master. A Government superintendent has no comparative interest, save in the good order of his men; when they offend him he brings them before a Magistrate to have them punished; the crime and the punishment possess not the interest to him, which they do to the settler, and the latter is consequently administered according as it is required, without relation to other circumstances.

The works of the Government have hitherto been confined to unproductive operations chiefly, as buildings, bridges, roads, &c. On these it is necessary to employ certain of the most useful of the tradesmen amongst the convicts, and it is scarce to be expected, that Government would consider the necessities of a settler, when its own wants stood opposed to such claims. Until lately, almost the whole of the useful mechanics were in the hands of the Government; consequently, this has served to obstruct, most materially, the progress of the colony, by taking away more than the due proportion of tradesmen, who ought to have been assigned to the productive portion of the community.

Without inquiring, therefore, at present, as to whether the works of Government are necessary; whether they could be performed by other means; or whether a different system could be pursued, it appears evident that the Government is placed at once in unequal competition with the settler. This obliges the latter to bribe the convict to accomplish an average quantity of work; his expenses are thereby increased, and his servants rendered idle. He does not hold the same power over them that the Government possesses; and when he is reluctantly compelled to have his men punished, it is often very difficult to say, whether the master, or the servant, is the greater sufferer. Expense, profit and loss are not brought home to the Government, and hence, one cannot pass through the country without observing numerous instances of the ignorance or carelessness of the

government with regard to its expenditure. As one example, I recollect when at Wellington, observing that thirty-five convicts were employed in charge of the Government herd of cattle, when an old settler would have only had five. I had frequent opportunities of observing those men. The milking cows, on which they depended for food, were taken care of, but the remainder of the cattle roamed freely as their keepers. Kangaroo hunting, and other amusements, served to lighten the weary time. They appeared, indeed, a happy, contented set of men; and when a less fortunate brother had taken to the merry green wood, or after collecting tribute from the unwary traveller, had found it convenient to seek, for a time, some remote retreat, the various stations of the herdsmen seemed to be gratuitously formed for affording him the necessary relief.

Amongst the convicts, there are nearly, I believe, an equal number of English, Scotch and Irish, in proportion to the population of the respective countries. Of the Scotch, however, there are fewer, and of the Irish more than their population ought to produce, considering England as the criterion. The characters of those, with reference to the countries that gave them birth, cannot be easily ascertained; but from the different, and often opposite accounts I received, I should state the general opinion to be, that the Irish convicts are reckless of crime and its consequences; careless, abandoned, unsteady; better workers than the English; ever ready to enter into any plot, however absurd, but bound together by no tie, so that they would sacrifice a friend or brother without the smallest remorse. This prevents their ever being formidable. On the contrary, the English are attached to one another, and consequently, when combined, they become more dangerous; they are idle, but generally turn out the most steady of the natives of the three countries. The Scotch are considered the best workmen, but are also accounted the most vicious and depraved characters of the whole.

The state of education amongst these people, is extraordinary, for few of them, proportionally speaking, can either read or write. At my farm, in Van Diemen's Land, I had an English free overseer, and five convict servants, none of whom could write their names. From all my inquiries, also, on the subject, I am convinced, that not one-half, perhaps a much smaller number, can read or write. One would expect that the Scotch, at least, would not be included in this remark; but even they did not appear to me to form an exception.

Another circumstance will place this interesting subject in a clearer light. The gentlemen convicts, who are denominated specials, were in the habit of being sent to a depôt at Wellington, and I believe, that at no time did the number of these exceed one

hundred. When I visited that place, there were but 40, out of whom, I had reason to believe, there were several who, at no period, had any title to be considered as gentlemen; and although there were amongst these several who had been officers of the army and navy, few, if any of them, could be said to have received a liberal education.

But let us dismiss this last remark from our attention, and consider the forty, or rather the highest number, one hundred, to be all men of education. Also let us consider, that by some oversight, instead of one hundred, there were four times that amount. *What proportion does* 400 *educated men bear to the whole convict population* 14,000? The result, therefore, of these inquiries, has led me to believe, that the common convicts, generally, have obtained less than the average education of the lower class in their respective countries, and *therefore, that a clear and direct mode presents itself, of decreasing crime in any country by increasing the education of the lower classes.*

One cannot but observe the great many convicts belonging to particular trades, such as shoe-makers, while those belonging to others are less numerous. Upon inquiry into the causes which produced a greater degree of crime in one trade than another, I obtained the following explanation from several settlers in New South Wales; an explanation which is well worthy of the attention of the British Government, and which will show, in a clear light, the real effects of the convict system. *It appears, that there is a constant emigration to the colonies, from the lower trades, and that, when one of a family comes out, the rest generally follow.* These gentlemen also assured me, that *most of their convict servants had brothers or relations in the country, transported at different periods, for petty offences.*

Let us now proceed to the examination of the state of the law, and punishment, with regard to convicts. We have laid down our position, that they are to be rendered productive. It is evident, on taking a view of the circumstances under which they are placed, that we find them, on their arrival in the colonies, in the situations of slaves, removed from the benefit of the laws, and placed under despotic power, during the periods of their respective sentences. It is not necessary that we closely investigate whether this is intended for their own benefit, or in the way of an example to others; here they are, and it is our duty to employ them to the best possible advantage. They, however, stand in a very different light from that of the negroes, brought without cause from their native country, and with whom, in proportion to the mildness of their treatment, combined with steadiness and judgment, the more productive have they become. But it would be absurd to expect, that the same would be the case with the generality of the convicts,

who, if not thoroughly depraved and vicious before condemnation, have possessed such opportunities of becoming so in their passage through the jails, hulks, penitentiaries, and convict ships, on their way to the colonies. Neither are they entitled to our sympathy, should they be treated with the rigour of slaves. 1st, Because they have wilfully brought this punishment on themselves. 2ndly, Because it may be requisite, by this means, to decrease the average amount of crime; and 3dly, Because it may be indispensable; since, however easily slaves can be guided by gentle means, the average number of convicts will not labour, when removed from the dread of severe punishment. It is, at first sight, therefore, evident, that arbitrary power must be vested some where, not only to compel them to labor, but to keep them in a state of subordination. It is not indeed necessary that this power should be at all times exercised; but it should exist, and its existence should be known: the exercise of the power also should be immediate, when required, and without obstacle in the way of its execution.

The powers of punishing the convict are vested in Honorary Magistrates, Police Magistrates, and the Supreme Court; the first two being appointed by the Government. The Police Magistrates receive salaries of £400 a year, and have districts of, sometimes, one hundred miles square to superintend. The law by which they are guided, is a compound of Burn's Justice, and Government regulations; hence, offences are punished in proportion rather to their relative legal value, than to their real intrinsic value. In order to understand this, I shall quote two instances that came under my own observation. A convict, for insolence, or refusal to work, might be sentenced for two years to work in chains; but another, who was walking beside his master, with a loaded musket, and who stood without affording relief, while the latter was being murdered by a robber, remained unpunished, because Burn's Justice took no cognisance of such an offence. Again, a servant observed a bush-ranger with his master's horse, and requested the aid of his brother servants in order to lay hold of it; these all refused, although aware of its being their master's horse. The first person, accordingly, having no other means of regaining the property, shot the robber, being legally authorized to do so: but the consequence was, that the servant was obliged to be removed from that part of the country, while the others remained unpunished, for the same reason as in the abovementioned instance. These may be, indeed, extreme cases merely brought forward as examples, but generally, I have reason to believe, that more injury is induced by modifying petty punishments, by means of the trammels of law, than by leaving the judges to their own discretion. Were a Government to select men qualified for such situations, who would

act with probity for the advantage of the country, without respect to private interest, it would be well to relieve them from the restraints of forms and precedents, and to give them in their stead simply the line of policy which was to be the rule of their conduct. True, we must suppose the line of policy to be clear and obvious; but with this as their guide, while their powers of punishment continued still restrained, they would not only be able to visit offences in proportion to their intrinsic value, but to apportion them with a view to the advancement of the general good. In small societies, particularly in those where civilisation and improvement have been less felt, the strongest struggles for power are ever observable, as if on it alone terrestrial happiness depended. This is peculiarly the case in the colonies; and even amongst the Magistrates, it is perceptible, in the extreme jealousy of any petty punishments, save those inflicted by themselves; in their apparent careful examination of evidence, punishing the complainant before coming to the prisoner; in their rigorous punishments awarded after conviction, or powerful support where the evidence has not been fully substantiated. These Magistrates have, however, but little cause to plume themselves, since the Supreme Court is equally jealous of their appointment and authority, as they are of that assumed by the superintendent. This remark refers more to New South Wales than Van Diemen's Land; in the former of which places, the situation of a Magistrate is sometimes irksome and dangerous, while he is, in many cases, prevented from exerting the powers he ought to possess for the general benefit.

Justice, it is said, knows no distinction of persons, and consequently, in all the Courts, the settler and the convict are received as equals; and the oath of the one is as a legal document equivalent to that of the other. The result of this system has certainly been, that a number of the convicts have become rich, independent, and useful men, though whether fewer would have done so under a different system cannot now be ascertained. The settler, however, has not passed unscathed by such contact; for his character has approximated in a greater degree towards the unprincipled convict, than that of the convict has risen towards that of the respectable settler. The amalgamation has tended to nip in the bud the rising energies of what might, ere this, have been a settlement, claiming to itself the respect of the world. Individual power, by whatever energies exerted, can never be productive of extensive advantage. It is by the combination of persons of education, industry, and enterprise, united together by principle and honor, that a country can advance in improvement. Raise a set of men without such advantages, and permit their mixture with persons who possess them, the degradation produced on the former will be but slightly compensated by the benefit conferred upon the latter.

The line of policy, with regard to such legal investigations, would, therefore, seem to be clear and evident. The older governments have found it necessary, in conducting the details of the state, to lodge powers in the hands of certain individuals, over others who are amenable to a higher power, which higher power is again amenable to a third, &c. The Government insists on the subjects being subservient to the lower power, and in its decisions between these, it does not consider them on an equal footing, but feels itself obliged to lean towards the power. The lower the state of civilisation, education, and morals, the greater power must be placed in these subordinates, and the greater must be the Government's bias towards them in its decisions. Where united and great energy is required; and where the responsibility for the proper execution of the object is in the hands of Government, this is still more necessary, as in military discipline. In the navy also, where support cannot be immediately afforded, and where the characters to be governed are of a more untractable description, both the power vested, and the bias towards that power, is generally increased. Power is, however, always jealous, almost, indeed, of its own shadow. In the instances alluded to, investment of power in the subordinates, is felt to be indispensably necessary, and centres, by means of it, a greater power in the Government. The latter is, in these cases, the sole agent, and the object, in the first place, is for its own advantage; whereas in the instance under review, the effects are for the general good, and the benefits are consequently less apparent. One would imagine it would have been the general policy of the Governments of those colonies, in the anomalous situation in which they are placed, to have treated the settler with the highest respect; to have put confidence in him; and while they watched his conduct, they should have taught him to respect himself. They should have increased the barriers between him and the convict, and in those investigations, the Magistrate should have leaned towards him, even at the expense of *legal* justice. His character should have been kept sacred in the eyes of the convict; no accusation, save in self-defence, should have been admitted from him; far less under the cloak of office, and in the presence of the convict, should a Magistrate have been permitted to pass a censure on his conduct. My observations have, indeed, led me to be generally dissatisfied with the administraton of justice, and investigation of evidence before Magistrates;—it appearing to me, as tending to increase crime and petty offences, while it likewise increased the refractory disposition of the convict, and his disrespect for his superior. It may likewise be as well, in this place, to remark, that, throughout the history of the colony, it would seem as if the Government and the settler had been constantly in opposition; that the convict has ever been,

ranged on the Government side, or rather, Government has ever considered it its first duty to protect him; while, on the other hand, it viewed the settler with jealousy, as a resident by favor, whose interest and prosperity were only objects of importance, in proportion as its own interest and prosperity, or that of its peculiar charge became in consequence affected.

With regard to punishments, so long as the criminal law of the land has no proper basis, but expediency, or the rule of the strongest, we have not to seek far for the requisites of a penal system. That punishment must be the fittest which combines the advantages of being found to possess the most powerful effect in the prevention of crime, and of being the least burthensome, or most productive to the community.

A Magistrate has the power of sentencing to the extent of 100 lashes, to two years to a chain-gang, or to two years transportation to a penal settlement. The first punishment, or flogging, combines, in the greatest comparative degree, the advantages above mentioned; persons, to all appearance the most stubborn and obstinate, are eventually subdued by it, and these often turn out the best men. This discipline must be, in those cases, steadily repeated, after every fresh act of insubordination, in order that it may produce such salutary effects. With others, however, and that too, a large proportion, the result of flogging is decidedly bad; and I have heard, that this is more observable amongst the Irish than amongst the convicts from the other two nations. It would appear to require, therefore, an intimate acquaintance with character, in order that this punishment should be properly suited to the offender.

The second punishment is, the iron-gangs, where the prisoners are worked in chains, on the roads, in large parties, for different periods. The chain itself would appear to be merely intended as a degradation, being so constructed, that the prisoners possess the power of removing it, while the inconvenience it occasions, only diminishes thier power of exertion. Formerly, they were poorly fed, but this is not the case at present. They are worked a certain number of hours, and as no tasks are assigned to them, and little power vested in the superintendent, their object is to do the least possible quantity of labor; they suffer, however, considerable privations, and living almost in a state of nature, the taking to a wandering life in the forest, appears to them to be deprived of all its terrors: it becomes, indeed, a school for those who desire such freedom.

In the commencement of this chapter, I conceived it necessary to shew, that reformation, however it might be regarded as a secondary object, ought not to be considered as a primary one; and now, amongst all the errors which I have, or shall have to lay to the Government, I must, on reviewing the internal economy

of the chain-gangs, entirely exculpate it from the blame of evincing, in this instance, an overweening anxiety or desire, regarding their reformation. When a person is sent to a chain-gang, he is compelled, intimately to associate with the very worst of the prisoners, whose sole objects and amusements are in maturing future plans of mischief. He is generally sentenced for a long period, gets tired, and, from being broken-hearted, at length becomes careless and reckless of existence. In the mean time, he is encouraged to idleness, and tempted to escape, because not the vestige of an obstacle to oppose it, is thrown in his way. Can it, therefore, excite surprise, that on his return from such a punishment, to mix with other convicts, who have not had the benefits of such an education, he should be found to spread discord, and to encourage idleness as well as insubordination amongst those who were better or more peaceably disposed? that bush-rangers or banditti continue to infest the country, increasing the expenses of the Government, and oppressing the industrious settler?

I have sometimes examined the reports of runaways, when it appeared, that six runaways had gone from the chain-gangs for one that had absconded from the settler. These runaways either become open robbers, or subsist on what they receive from the other convicts attached to settlers, it being deemed a point of honor amongst the former fraternity, to protect one another. When they commence robbery, the injury they commit is not confined solely to their depredations, or to the general alarm for life and property, felt by the settler; but it likewise tends materially to increase the price of produce. Huts must not only be armed, but single individuals cannot be left alone. The consequent expense on sheep stations is very great; waggons must be protected by armed men; in a word, it serves materially to diminish the profits on all agricultural produce.

There frequently does not appear, at first, any reluctance on the part of the prisoner to go to a chain-gang, and he may often rather desire it. Shame has been long since perfectly eradicated from his bosom, and attempts to punish, by means of exciting this passion, appear almost ridiculous. He may desire to go there from an inclination merely to change from a lonely life, in order to mix with his former companions; perhaps he may wish to meet a particular friend in that iron-gang, to unite in some plan of robbery or escape; very frequently, however, his object is to punish his master, who from being deprived of a workman, when he most requires one, will thereby be put both to inconvenience and loss. Indeed, it is, I believe, universally admitted, that the effect of the chain-gangs is, in nine cases out of ten, to render the individual worse, and more dangerous to the settler. That it lets loose upon him five to one of those who consider his property as their prey, the re-

cords will prove; and yet with the general conviction, that the system aggravates the evil intended to be corrected, it continues to be adopted, without any change or improvement. It cannot even be recommended on the plea of economy, for without enquiring particularly into the nature of the work, it is well known, that the expense of these gangs is enormous, in comparison to the work executed. This is, because it is the interest of the prisoner to be idle, provided he saves himself from punishment; nor will the expense, I conceive, of these gangs, be materially diminished, until this rule is generally understood, and inculcated; namely, *that if the exertions of the convict are required to be exerted, whether he is in the employment of the Government, or that of the settler; whether he is in a chain-gang, or at a penal settlement; the hopes of reward must be proportionally held out to him, as well as the fear of punishment.*

One would imagine, considering the beneficial effects which have been known to have resulted from it, that solitary confinement would have, ere this time, been attempted with the convict; perhaps it may have been in consequence of the expense of buildings requisite to contain such a number; and owing to this, it is only resorted to with female prisoners. It may not have occurred to the Government, that underground apartments could be easily and speedily constructed, possessing every requisite for the purpose. Neither, perhaps, has it occurred to them, that all the advantages of solitary confinement, with a return in labor, might be obtained by working some of the mines in these countries.

With regard to the punishment of flogging, it is observed, that it is not with the more determined characters that this punishment has either no effect, or a pernicious one; for these are frequently improved by it, when it is persisted in justly and steadily. With these men, however, one would not expect that solitary confinement would possess the same advantage, since patient perseverance is a mark of a determined character. But to the greater number on whom flogging has a pernicious effect, namely, the thoughtless, the reckless, and abandoned, solitary confinement would appear likely to prove the most effectual punishment. With females, it is entirely different. An English female convict is, probably, the most thoroughly depraved of her sex to be found in any country. Still, passive fortitude is a portion of her nature. She, therefore, bears, with total indifference, solitary confinement, whereas such a person would be governed, without difficulty, through the excitement of fear, or by means of terror, occasioned by the infliction of pain.

The transmission to a penal settlement is a severe punishment, resorted to in aggravated cases. This punishment is deprived of one of the objections of the chain-gangs, since, according to the severity used in these, so many more become runaways, whereas

severity can be here practised without the possibility of escape. With the exception of removing the convict from the connections he may have formed, or from a situation where he might otherwise have become dangerous, I am not aware that the penal settlements possess great advantages over the chain-gangs. The individual is generally unfit to be afterwards returned to the settler, or superintendent. The expense is great, because the quantity of labor is small, while there are no inducements held out to him either for exertion, or for good conduct. It would, I think, be well, under present circumstances, that the generality should not be permitted to return, but that smaller indulgences should be (within, or near the penal settlement,) allowed them after their sentences had been completed, and similar to what they would have been entitled to in the free settlements. A few, indeed, of the best behaved might return, were it only to spread amongst the other prisoners, accounts of the horrors and privations to which they themselves had been subjected.

The indulgences held out to convicts not under sentence for secondary punishment, are tickets-of-leave, situations in the police, &c. Tickets-of-leave release the individual from bondage, for the remaining period of his sentence, and during the pleasure of the Government, or in other words, during good behaviour: he is still, however, considered under surveillance, and is obliged to reside within the district in which he had been bound to his last master. A convict, according to the local regulations, is entitled to this indulgence, after having served, without a second condemnation in any court, half the period of his sentence. There is a curious regulation, in addition to this, in consequence of which, a person on being punished by a Magistrate, has to commence from the date of such punishment, to serve again, in order to obtain his ticket-of-leave; by which means a convict, whose sentence is seven years, on being flogged for an offence on his arrival, loses nothing, whereas were he to get flogged during the third year, he would be obliged to serve the whole of that period over again.

I cannot help offering here an objection to the basis on which the above indulgences are granted. The regulations appear to me to have no direct reference to the position I set out with, nor to the capital invested by the Mother Country. All convicts, on their arrival in the colony, are, in one respect, similarly situated; that they are indebted to the country for the expenses of their transportation, to make up for which, they ought to serve a certain time; and afterwards, the indulgences held out, should be in proportion to their respective sentences. Generally speaking, the tickets-of-leave produce the best effect, both before and after receiving them. There are, however, a considerable number who cannot remain harmless, except when under controul; and

these, though previously supposed to be steady, immediately on receiving a ticket-of-leave, return to their former practices, until the ticket is either resumed, or they are brought before the Supreme Court, in order to receive another sentence.

No land, save in very particular cases, is granted to the convicts, but they are frequently entertained as superintendents on salaries, or are placed in the lower offices in the Government employment. Ticket-of-leave men, as they are now denominated, whether as superintendents or other servants, are preferable for employment to low free men, who, in consequence of the want of power in their masters to controul them, become often insufferable. This is the result of the habits to which the former have been subjected, and to the facility with which they can be deprived of the indulgences they possess; whereas, the free low-born European soon acquires a thorough acquaintance with the evil practices of the convict, and speedily becomes as little worthy of confidence; while at the same time he imbibes such ideas of liberty, equality, and independance, (in which he is borne out by the Government, and by the Courts of Justice,) that he is found to be afterwards completely incapacitated for the situation of a subordinate.

We now take leave of this subject for the present, in order to introduce the female convict. Females arrive in different vessels from the males, in the proportion to the latter, of one female to six or eight males. They are either assigned from the vessel to married families, or are shut up in prisons, named factories, at Paramata, Hobart Town, &c. Before, however, tracing their progress in detail, we shall inquire into the natural line of policy which we should be led to adopt towards them.

As they come out in the proportion of 1 to 6 or 8, of males, the inequality of the two sexes would appear to relieve the British Government, in a great measure, from the, perhaps otherwise imperative duty, of repressing crime, by severity towards them, so much as might be required with regard to the males. The union of the sexes has, in all countries, tended towards what may be denominated, a softening of the asperities of society, whereas a distinct separation has invariably tended to render the males savage, and the females, abandoned. One would, therefore, be inclined to recommend the encouragement of marriage, under the expectation of beneficial results, since both parties are here placed in similar situations.

Again, in a country where the necessaries of life are produced in abundance; where the population is scanty, and the price of labor is high, we should imagine, that the increase of population would be considered of the first importance, provided always, that the young offspring could be brought up in such a manner as would enable it to become afterwards productive. Although, however, we might

consider that the first part of our policy, was to set these females to bear children, we ought not to deem ourselves relieved from the necessity of rendering them likewise productive. Production is required from every portion of the community, and more particularly from those who are debtors to the Mother Country, in the forfeit of their crimes, and in the amount expended for their transportation. Production is likewise required, because it tends to their improvement. Lastly, we ought still to preserve such controul over them, as may be found necessary to prevent them from being injurious to the community.

Let us now return to details. The women arrive from the different countries in a ratio, similar to that of the men. The Scotch women are said to be fewest, in proportion to the population of that country, and are reckoned the most abandoned; but from my own observation, I should conceive that the Scotch and English women, might honestly and fairly divide the palm between them. The British female, when once she passes a certain line, knows no further bounds, but becomes depraved in proportion to the nature of the temptation. In this respect, she differs, in some degree, from her sex in other European countries; and there is a wide difference betwixt her and the male of her own country, whose progress to crimes is slow, but determined.

I have stated, that on their arrival from on board ship, they are consigned to married settlers as servants. In this situation, be the care of the mistress what it may, almost the whole prostitute their persons; a great number are drunkards when they can command liquor, and a still larger proportion are thieves, when they conceive they can accomplish their object with impunity. The mistress possessing no greater power over these than she could exercise over a free-hired servant, and often being little qualified for the charge, the fickleness of the female disposition soon evinces itself. The convict, tired of her situation, wishes a change, and in order to effect it, becomes insolent, or commits some petty offence, for which she is taken before a Magistrate. Her mistress, who is perhaps only desirous of getting rid of her, may do so without exhibiting any charge, in which case the convict is sent back to the factory, from whence she is soon assigned to another mistress, and the same scene may thus be acted again and again.

I believe, that after a year she is allowed to marry, supposing she has got the sanction of her mistress, with a recommendation for good conduct, &c., but this I consider to be a rare occurrence. Should she serve another year, so as to obtain similar recommendation, she may receive a ticket-of-leave, when she can either marry, or turn prostitute; the old and ugly, under similar circumstances, hire themselves as servants.

When a woman is brought before a Magistrate, and convicted of an offence, she is sentenced, generally speaking, to solitary confinement, in which case her head is shaved, and she has likewise to perform quarantine in the factory for nine months, viz. 3 months with the crime, or worst class of prisoners; 3 months with the 2nd class, and 3 months with the 1st class. The consequence of which is, that out of the small female population in both countries, 400 are confined, on an average, at Hobart Town, and I was told there were, or had been, 800 at Paramatta, besides those in the smaller factories of Launceston, &c. We shall, however, afterwards assume, that the number constantly confined, may be, on an average, 1200. At Hobart Town, these are employed in spinning; at Paramatta, they both spin and manufacture a coarse woollen cloth, which will be afterwards taken notice of. Here it is only necessary to observe, that it is a useful and good article, but at the same time extremely expensive.

I shall now endeavour to shew the results of this system. Where unmarried convict women are consigned to families at a distance from the towns, having a number of male prisoners in their establishment, the effect upon the latter has been universally allowed to be unfavorable; whereas it is the reverse with regard to married women, under the protection of their husbands. As no corporal punishments are admitted, females feel, and act far more independently than men; they are more difficultly controlled, and complaints against them are more numerous than against the others. Their continuance, therefore, in the unmarried state, is exceedingly injurious. In consequence of the want of controul over them, the mistress is obliged more frequently to resort to the assistance of a Magistrate, than would otherwise be the case, did she possess the power of punishing the first symptoms of insubordination. When the convict receives sentence of solitary confinement, the depriving her of her hair, is ever considered, by the new comer, as the most severe portion of the punishment, for vanity is still her ruling passion. As has been already observed, solitary confinement does not possess those salutary effects, which might be expected from it, were it applied to the generality of male prisoners, in consequence of the different constitution, and previous secluded habits of females. These will frequently dread the slightest application of pain, or any thing calculated to occasion terror, while they will submit, with resolution or apathy, to the greatest privations.

But the system of confinement is of far more questionable policy. The keeping criminals cooped up together, and in constant intercourse, is recognised in all countries, as producing the most deleterious consequences. These effects are more evident amongst boys, next amongst women, and least, perhaps, amongst men. What, therefore, the object can be, in obliging a woman, who

has committed any offence, to associate intimately with the most depraved of her sex, is not easily to be discovered. One would indeed imagine, it was intended to complete the education of every female in vice, and to render her a still more worthless member of society. It is in vain, however, that we look for a line of policy as contained in the regulation of the Government; present or apparent expediency is only found to supply its place. In this, and in the management generally of the male and female convict, one may perceive the miniature of the government of colonies. At first a line of policy may have been laid down, remote, indeed, from the truth; for policy, to a late date, has scarce been deemed an object of inquiry, save when it related to the protection or injury of neighbouring states. In following this, difficulties occur, and these are greater in proportion as the first position is remote from the truth. To remedy petty evils, regulations are introduced, by which the innocent are punished, in order to reach the guilty; or an embargo is laid upon the innocent, lest a portion may be guilty. These regulations, to remedy existing evils, generally immediately infringe on the line of policy, and one following upon another, it becomes altogether obliterated; such is almost the invariable result of present expediency when opposed to policy.

One would naturally inquire, why so obvious a mode as matrimony, had not been attempted, were it merely to get rid of an enormous expense, and a troublesome charge? I have myself often inquired regarding this, but heard the following objections urged against it. That the treating the females in this way would tend to increase crime in England. That the church in the colonies and at home, would raise its voice against it, and thunder from the pulpit its powerful malediction. But the chief, and I fear the true objection was always retained to the last, namely, in such a case, what were the members of the Government and the settlers then to do, in order to supply themselves with female servants*.

But to place this in a still more obvious light; the effects of the climate of Australasia, it is well known, are to increase, in a high degree, the productive powers of animals of all descriptions: man is by no means an exception to the general rule; probably in his case, owing to the abundance of provision, in conjunction with the well known salubrity of the atmosphere. We have assumed, that in such a country the most useful employment for the women, would be in bearing children. Almost every woman, under 42 years of age, on her arrival in New South Wales, and properly treated, will beget a large family, producing, for a considerable

* Sir Thomas Brisbane, I understood, made an experiment of permitting the females to go out to work; but it was represented as an act of great atrocity to the Home Government of the day; and although a Court of Inquiry declared, that the experiment had proved most successful, Sir T Brisbane did not pass without censure for his temerity.

period, a child once a year. Females of a higher class are less affected by the climate. By sending the female convict to service on the present system, the power of bearing children is materially weakened, if not entirely destroyed; and I cannot help estimating that by the joint operation of the factory and service, the number of children afterwards produced, is reduced to one-half of what it otherwise would amount to.

The Government of Van Diemen's Land would seem to consider this as an advantage; and in order, apparently as far as possible, to reduce the total number of births, it has issued a regulation, making it criminal in a convict woman, during service, to become pregnant; and those guilty of such misdemeanor, are accordingly placed in the crime class, and imprisoned for the customary period. The increase of population is here treated as an evil, and an attempt is made to restrain it, by recommending, under cover of punishment, *that women, when pregnant during service, should procure abortions.* Such, although by no means the intention of the regulation, must evidently be the natural result of it, tending to injure, or render inert the conceptional powers of the female, when she is afterwards permitted to marry; while it must be clearly recollected, that marriage is only permitted as a favor after service, and after obtaining certain certificates, which the parties concerned have not the power in most instances to command.

Lastly, there are, as we have observed, 1200 females, and upwards, in the factories, confined for petty offences against their mistresses, and had these been married on their arrival, they would have produced, *perhaps,* 1,000 *children, annually: also, had this policy been earlier commenced, these would have been producing at compound interest; composing, of themselves, the greater portion of the colony.* Nor would Government experience difficulty in getting the females married immediately on their arrival, without even landing them; indeed, were their numbers doubled or tripled, I do not imagine that the facility would be thereby affected. The females are far from coy, and the males are sufficiently anxious to take unto themselves helpmates. Supposing, therefore, that the former were divided into three classes; to have a wife from the first might be considered by the males as a reward for previous good conduct; while the second class might obtain husbands on an equal footing; and for a very small inducement held out by Government, the third class would be got rid of, were they old as Methusaleh, and ugly as iniquity. In concluding this subject, I shall only remark, that I can perceive no just reason why the female, as now, should be removed from the necessary controul, because she happens to be married; or why that ceremony should relieve her from the necessity, in conjunction with the male, of repaying in labor the sum expended for her transportation.

CHAPTER II.

A letter addressed by the Author to the Gentlemen at Bathurst.—Capital invested in the Colony, and its produce. Cause and effects of the present distress.—Colonial wealth, and its transposition into money. —Effects of such transposition.—The Author's proposal of Corn Banks.—Their first effects, &c.—Free labour.—Danger to be apprehended from the convict population, and proposed means of prevention. —Education.

I believe, that a general estimate of the present state of New South Wales, and the causes which have led to the distress which prevails throughout that colony, cannot be better communicated by me to those who have not had opportunities of actual observation, than by submitting the notes I had retained, of a letter I addressed, during an expedition through the country, to a Gentleman at Bathurst, for the perusal and information of the other settlers in his vicinity. Bathurst is situated 140 miles to the westward of Sydney. The high way, for a great part of that distance, is over a lofty ridge of hills called the Blue Mountains; and with the exception of a few places which are now in a state of improvement, it may be considered, for a mountain road, as tolerably good. The land is of a superior quality, and from what I understood, the settlers, although few in numbers, would appear to be of rather a better description than the average found in other parts of the country. Considering them, therefore, as more likely to listen to a line of reasoning, leading diametrically opposite to those dogmas, on which the settler's ideas of Political Economy generally have been founded, I endeavoured to convince them, that the course they were pursuing was fraught with ruin to themselves, and injury to their posterity. I explained to them the means I proposed for overcoming the general distress prevailing amongst them, and pointed out the advantages to be derived from their present insulated situation, which constituted, in their opinion, one of the greatest obstacles to their future progress. The Bathurst country most probably, however, will ultimately find a better mode of exporting their surplus commodities through the Murrimbijjee and Tomat rivers, which after their junction, find an estuary in Spencer's Gulf, on the south-west coast of New South Wales.

To C—— R——, Esq. J. P. BATHURST.

My dear Sir,

"After the conversation we have had together, I conceive there is no necessity for apology in forwarding you some notes of my sentiments regarding the present state and prospects of improvement of the district of Bathurst. I fear you will find these, in

many places, obscure, and for that reason, I send you them in the rough state, that those passages requiring it may be improved; after which, I shall feel obliged by your submitting them to your friends in the district, in order that my opinions may be canvassed, and the different proposals for alleviating the difficulties under which all are laboring, may be taken into consideration, and, if possible, put in practice.

You are aware that a large capital has been expended on this colony; namely, the sum total of the Government expenditure from its commencement, and the total amount of capital brought into it by individuals. Although the Government expenditure has been at the rate of £80,000 and upwards, per annum, for the last forty years, let us only assume, that it has been one-half of the amount, or £40,000, which will give a total, for forty years, of £1,600,000; and as the Mother Country has had to pay an interest, varying from 3 to 5 per cent., we shall also have to add to the last sum, £1,300,000, or say at once £3,000,000. In order to estimate the amount of individual capital, and to keep, likewise, within similar limits, we may assume, that 6,000 persons, since the colony commenced, brought along with them £500 each, or £3,000,000; this would, therefore, make the total amount of capital invested, to be six millions of sterling money. Now, although I am aware it may be shown, that instead of six millions, nearly 12 millions have been really invested in the colony, still it is not necessary for our purpose to approach nearer to the truth, since the facts to be deduced will be rendered sufficiently evident, by assuming the smaller sum to be correct.

The produce in exports of the colony is at present estimated at £80,000 per annum, which *is little more than* 1 *per cent. for the capital invested;* and if we separate from this the whale fishery, it will leave *for capital invested in agriculture, a rent of only one per cent.* Now were we to suppose these six millions to have been sunk, where has this sum gone, since it must be either in or out of the colony? What has gone out? The quantity expended is the excess of imports above exports. Now it will appear, by looking to the state of imports of last year, that £500,000 of these has been received into the colony, whereas only £80,000 of exports has gone out to pay for it, consequently, the colony has lost £420,000; so that, if this could possibly have been continued for fourteen years, the whole of the capital which we have assumed as invested, would have been expended by the colony. In pursuing this subject, it will likewise be found, that the greater portion of this amount has really been squandered, and that only a small moiety has returned, to benefit the Mother Country: with this, however, we have nothing to do, our present inquiry being solely confined to the state of the colony.

now, an individual, without examining closely into this subject, would naturally conclude, that it would have been much better that the colony had not sunk these six millions, but that they had lived upon the interest, doing nothing; in which case the colony could now have produced the amount of it, instead of only, perhaps, £100,000, the sum I conceive New South Wales is capable of mustering at the present period. In order, however, to trace the causes by which the existing poverty has been induced, let us suppose the capitalists for the moment to be composed of two individuals, the emigrant and the English merchant. When the emigrant requires goods surplus to his income, he must expend his stock or capital to defray the expense. His capital has, however, been converted into houses, crops, live-stock and dead-stock, and the remainder into foreign food and clothing; what is he, therefore, to do? The last mentioned articles, it would appear, have not enriched him, since they have been increased in proportion to the investment of capital, and not in proportion to his returns. He is possessed, to be sure, of a fine estate, flocks, sheep, &c. but when he wishes to pay the English merchant, he perceives that his money is all gone. He looks therefore to his cattle, and finds them useless; the English merchant cannot take them in exchange. He looks to his house, his enclosures, crops,—in fact, every thing he possesses, but they are all totally inadequate to satisfy his creditor. He begins, therefore, to feel himself embarrassed. Suppose, now, that instead of one emigrant there are a number; that these have been coming out gradually with capital, which has been flowing imperceptibly away, without the community being aware of it; and that until the greater portion has been thus withdrawn, they cannot immediately perceive either the cause or remedy for the general distress. In this case, the more prudent dispose of their property to their neighbours, below the amount which it has cost them; cattle also fall in price. The evil, however, continues to increase, and indeed appears to roll onwards with increased velocity, as its effects begin to be perceived. Property, accordingly, again and again changes hands at reduced prices; cattle become of little or no value; and money is borrowed only on the most ruinous terms. Supposing, again, that during this state of things, the colony cannot produce the requisite quantity of corn, and that she is, in consequence, obliged to derive her resources from another country. The people having now little money to purchase bread, the abovementioned effects will be greatly increased; property of all descriptions, as well as live-stock, continuing to decrease in value: now this evidently would be the case, whatever might be the quantity of such live-stock; the effects having nothing to do with the demand, since, under any circumstances, the same changes would have been produced.

We shall next inquire into the nature of colonial wealth. When a man engages a number of servants, he receives their labor, and gives them food, &c. The labor received is equivalent to what is given, and neither derives advantage, unless there be a surplus of produce above consumption, in which case the advantage to each is directly proportional to his share, and to the amount of this surplus produce. Some, looking casually to the condition of the Mother Country, would consider that the giving food and clothing to a servant was sufficient, and that the master was entitled to the whole surplus produce. This error, though a general one, seems to have originated in a want of proper investigation of the tenure of property; but the principles of this inquiry are of too lengthened a nature to warrant my entering into their details.

A man, therefore, I conceive, who gives to his servants food and clothing only, and receives from them but sufficient to pay the labor, is neither doing good to himself or to others. Nay, let it be supposed, that during this time the country has been improving, and it will be found that this individual has really been getting poorer; since a larger quantity of his produce will be required to pay for the clothing, &c. which he himself does not manufacture. Wealth then must be productive, otherwise it is useless: again, a man who produces no wealth, is useless to the country; and it is he who becomes richest in productive wealth, who has rendered the most benefit to the state. *The object of all ought to be, therefore, to become productive.*

In order to observe the means necessary for this purpose, we must examine how the capital has been expended to produce wealth. According to the amount of exports, it appears that the colony produces £ 80,000 per annum, real wealth. This is indeed money, that is to say, a portion of the six millions has been expended to produce this amount, while the remainder has been invested in houses, and live-stock. Let us call the first money, and the second, colonial capital; now the colonial capital, though not re-convertible into money, is yet wealth,—it is something. Again, let us divide this last into productive and dead-stock; productive are the carcasses of our sheep, our herds, fields, &c.; the rest are unproductive, as houses, ornaments, &c.

We have got, it appears, £ 80,000 in money, viz. wool; and we observe, that if we expend one pound more, (supposing the Government annual outlay to cease,) we injure ourselves; but our £ 80,000 would be likewise useless, if it were not expended. If we lay this out in eating and drinking, our wealth would remain the same; we should not improve. Suppose, that in order to improve our wealth, we determine that half shall be employed in productive wealth; this would lead us to inquire into the nature of what we have denominated, colonial productive capital.

Our colonial productive capital consists in our corn, the carcasses of sheep, live-stock, butter, cheese, &c. Now, we have seen that the corn or other articles cannot be converted directly into money. The English merchant requires them not: indeed, as a general observation, corn in all countries is chiefly valuable on the spot. It produces to those countries which export portions, but little increase of wealth, and the necessity for such exportation is a proof of their poverty. But to these colonies it is altogether useless for this purpose. I wish this could be clearly impressed on the minds of settlers generally, for it is a proposition of the utmost importance to their interests. Situated as, however, Bathurst is, the settlers cennot but feel the conviction that, with regard to their country, it is self-evident; cattle are the same; they are useless above the consumption of the colony, and cannot, by any means, be advantageously converted directly into money. One would, therefore, at the first view of the question, as it now stands, be led to imagine, that the policy of your district ought to be, to expend only the money possessed; to decrease labour so as only to produce for present consumption; and that the live-stock should be diminished in a similar proportion.

In order, however, to view the proper policy of this colony generally, I would choose, for example, your district; Bathurst being situated far beyond Sydney, a natural boundary, the Blue Mountains, rendering the exportation of grain impossible, even could other circumstances admit of its being attempted. What, therefore, ought to be the policy of Bathurst, since Bathurst is to Sydney, as Sydney is to the Mother Country? We shall suppose that your proprietors are composed of 20 respectable, sensible men, who have now settled themselves for life, and wish to look to the improvement, not only of their own, but of their children's prospects. Suppose we assemble them together, and prove to them the fact, that there are two distinct species of wealth, colonial and money; and that these two cannot directly be converted into one another, but by means of something else. That they possess, almost no money. That they are at present totally dependant on Sydney for their clothing, and a great portion of their food. Let us refer them to the past, and they must yield the conclusion, that at present they cannot even raise corn for the supply of their establishment without loss,—nay, that they would be richer by doing nothing than by investing their capital. I would shew them, that during this juncture, their resources must be constantly diminishing, and that the price of labor will be more burthensome as the population has less power to pay for it. This remark is equally applicable to the free as to convict or slave labor.

So far this is the case while we are only raising corn; but if I manufacture a commodity, say shoes, converting a portion of my

corn into that article, and having made shoes for myself, reckoning Bathurst as one, and if I export another pair to Sydney, (which I can do, because shoes will better bear the expense of carriage,) I thereby convert my bushel of corn into money. But on the face of this again, I must evidently be put to considerable expense in comparison with the same for which the manufacturer at Sydney would accomplish it. I must bring a portion of the food of the shoemaker from Sydney, and all his clothing. This is, indeed, but too true; nevertheless, let us assume, that having given in exchange to the person whom we have employed to manufacture those shoes, our otherwise useless material, corn, and supplied him and ourselves with this produce, we can just enter into competition with the manufacturer in Sydney; our profits in this case being the surplus over and above the price of the clothes, sugar, tobacco, and rum, expended in making the shoes and in raising the corn. This must, of course, be a very small quantity, but still we assume that it is a quantity.

Again, suppose that in addition to our shoes, we also manufacture a jacket, and grow our own tobacco, or in other words, that an individual of the 20 grows tobacco, another makes cloth, and a third manufactures shoes. How do the shoes now export? The benefit derived from the manufacture of the shoes is increased, because we have now our own tobacco, and our own cloth; the advantage, therefore, is, in this case, only the difference of the tea, sugar, &c. on increased labor, which ought to be productive beyond personal consumption. This, therefore, is the first and most important position. *Every first manufacture of a new country is unproductive; but each succeeding one cheapens that which precedes it, provided it is a necessary for home consumption; and it cheapens the former in proportion to the consumption of the latter article in that country or district.* I must, however, quit this subject for others of equal interest.

One of the most difficult steps towards improvement, is to persuade a community, however small, that it is by no means the interest of individuals to pursue wealth separately. It ought to be sought for in parties, united by the closest ties. The maxim of every one's endevouring to obtain wealth, without the assistance of his neighbour, is a prejudice inculcated by age, and possessing no other basis of truth, than that your brother man is so devoid of principle, that it is impossible to place confidence in him; and that he is so blind and selfish, that he cannot seek the benefit of others, even when his own advantage would be proportionally influenced by his success. I do not conceive that confidence can, or ought at present to be extensive; but still I imagine, that in the existing low state of society, 20 individuals may be allied together for their joint interest. It is not, however, necessary

that there should be so many; let a fourth of the number combine; but for the sake of explanation, and for the commencement of an important undertaking, we shall still retain the number twenty.

These men are supposed to be landed proprietors, possessed of a little money; that is wool, and a good deal of colonial wealth, viz. cattle, corn, &c. Our first step is to form, by means of these, a colonial or district bank, with a part of our colonial productive produce. Say that our currency was corn, that is, instead of promising to pay one pound, the bank agrees to pay a bushel of wheat. Now this is real colonial wealth, and must be present; that is, wherever the corn is preserved, the quantity on the notes issued must be in the present possession of the bank, whether in its store houses or otherwise. Neither cattle, or money, (wool,) is an adequate substitute—corn is the currency. What effect has this first step? The corn can be converted into stock, cattle, but not into money, except to an extremely limited extent. The notes will, therefore, not be received for any article, such as wool, cheese, butter, which can be converted into cash by sending them to Sydney, but they will be exchanged for meat, and a portion of free labor. I would recommend, then, that this proportional quantity of free labor be now paid in these notes, and that rations be immediately withheld. Foreign commodities, however, must still be furnished, and those will constitute the larger proportion. The effect of this will, therefore, be to divide the stockholders, and a free labourer will now become a holder of these notes, and will consider them as wealth in the direct ratio that the proprietors of the bank exert themselves in rendering them convertible into specie.

If we suppose that we have, by any means, been enabled to render this our common circulating medium, and that these notes amounted to one year's consumption of grain; should grain be scarce, other commodities, colonial or district, would apparently get cheaper, as for instance, a pair of shoes, while their real value would still remain exactly the same. Now, let each of our 20 persons agree to take a trade, and to select those trades first, which are actually required for home consumption; that is, for the free laborer, such as clothing; and let us suppose also, that we have thus completed the chief necessaries, and that we take our own bank notes, as far as possible, in payment for them. The greater proportion we can thus afford to take the better, and this will be in the ratio of the number, and not the extent of the manufactures. Each individual would then agree to supply his neighbours with the quantity they might require, taking from them their commodities in return, at prime cost; for a per centage on each, is not profit, but equals, applied to or deducted from equals. The true profit is the surplus manufacture over consumption. It is plain that one

person could not undertake this with advantage. The more labor is divided, the greater the productive quality of the number of laborers, and generally the better is the manufacture. One man could not, whatever be his capital, undertake, with advantage, more than one branch; but in a small community, it is at first necessary, especially where the capital is in the hands of a few, and where agricultural pursuits are the least productive. But it is rendered also absolutely necessary, on the ground formerly laid down, that each succeeding manufacture, for home consumption, cheapens the one preceding, in proportion to its consumption. Now when each has supplied his neighbour and himself with what is required for home consumption, let us export the remainder, that is the best part, or corn, contracted into the smallest space, and then we convert our residue into specie. It is not necessary that each should send away his surplus, but that the manufactures which are best calculated for that purpose should be exported. Each will receive, in that case, the same advantage as the exporter, since he must consume their surplus produce in his manufacture, and repay them in money or foreign produce.

But in a former part I observed, that it was necessary to convert a portion of our money into productive wealth, and we now perceive that every thing which assists us in carrying on these manufactures, is productive wealth. When a man sits down at first as a colonist, his object must be the raising of food, and he attempts to bring his agricultural concerns to a high state of perfection. Now this is impossible; for each trade, reckoning agriculture as one, requires the assistance of another and another; nor can a farmer proceed with advantage until he can supply himself with necessaries at a low price in exchange for his produce. The farmer, I say, only looks to food, and to raising expensive machinery, endeavouring, by this means, to diminish the number of his laborers. He perceives that those are expensive, because, says he, they are few in number, forgetful, that the cause of high wages exists in his own insulated employment. Specie has changed value; a man asks £20 in New South Wales, for the same quantity of labor that in England would cost £10, because £20 in New South Wales is just equal to £10 in England, and will remain so until you change the value, not by endeavouring to reduce the wages, but by converting your grain into money. Again, free labor appears to be dearer than slave or convict labor, although in reality it is not so. The convict consumes a great deal more, generally, than the value of his work, and far more than the free laborer; the difference is, that the one consumes colonial wealth, whereas the other consumes real money; that is, the one consumes what would otherwise be useless to the settler, and the other requires to be paid in specie, which the settler does not possess.

It is, therefore, a subject of the first consequence to commence, in the first place, those manufactures, of which there may be the greatest consumption within the district, provided you possess a sufficiency of corn to undertake them; and I am much mistaken if your bank does not speedily furnish you with the means of thus increasing the number of your laborers. It is evident, however, that no money must be borrowed for this purpose; every fraction borrowed being direct loss. If the bank consume a fraction more than their real income of money, they are losers, and in the ensuing year they must produce a smaller quantity in proportion. Our bank would, therefore, be the people of Bathurst; and I would strongly impress on these, the propriety of forming such regulations as might be calculated to ensure cordiality and unanimity amongst the members.

Here followed, in the original, certain recommendations regarding the internal management of the bank, and of its members, viz. the meeting, without fail, of the proprietors once in two months, when the latter should consult upon such matters as regarded the interest of the community. That they should guard against the failure of crops, or scarcity of grain, as well as the consumption of old grain, by means of distillation. That a newspaper, similar to those published in the early settlements in America, should be commenced upon the least expensive plan. That experiments relative to the introduction of new commodities, or improvements in agriculture, should be shared amongst the members, who should report on them for the general benefit. That books, on subjects connected with their trades, or agriculture, should be purchased by the community. That the bank should dispense civil justice amongst its members. Lastly, regarding politics, that the individuals composing any one state, are virtually incapable of properly benefitting by a free government, whose members are unable to form permanent combinations amongst themselves, for the increase of their wealth, and for general improvement.

A bank on such principles having been formed, would not the natural consequence be, that its example would speedily be followed, and that other banks, on similar, but improved principles, would be rapidly commenced? Also can it not be foreseen, that those societies would appoint deputies to meet, for the purpose of acting for the general interest, where the modes of discounts and the distribution of trades would be arranged, as well as the exchange of their respective commodities. One of the first points for their considerations, I would naturally anticipate, might be the improvement in the value of their present money, viz. their wool; and I shall here offer you my own ideas in this respect, as the principles will extend to every article of export.

Let all the wool belonging to the bankers, or others who may desire it, be screwed, and perhaps washed at one place, by commissioners, who are expected honorably to perform their duty. The wool is sorted, and screwed by the bank, and stamped with its seal. Let low letters be first taken, say F as the mark of the first quality, which will leave room for annual improvement, (after which the bales will be transmitted to England or Sydney, as the owner's may please.) This F must stand in after years for exactly the same quality; that a little above it would receive a higher letter. Now what is the result? The first year the consequence may not be felt, unless the consumers are made well aware of the arrangement, which might, perhaps, be done to a considerable extent. When, however, this becomes known, the wool acquires a value which can scarce be understood by those who are not particularly acquainted with the subject. It occurs thus; the first purchasers are not the consumers, and though they are well acquainted with the value of an article, they are guided in their purchases by circumstances very different from the quality of the produce. Brokers are, however, the chief purchasers for distant consumers; now a consumer, in giving instructions to his broker, is, by means of the stamp, certain of the quality of the bale, and will go to a higher price on this account, rather than leave it to the broker's discretion. Manufacturers also attach a value to that wool which they have been most in the habits of spinning, and will manage it better than that which they have been less accustomed to. There are many other circumstances, which I need not detail, tending to give a value to a known article; a value which can only be obtained by means of an institution constructed on similar principles to the one I have proposed. I would willingly mention other objects of interest, which would be derived from the bank, did I not feel confident that these would be presently perceived by the members, so soon as the establishment had fairly taken root. I shall pass, therefore, to a different subject, but one of vital importance to the welfare of your community.

From the present state of the laws, I am convinced that no free laborers could be advantageously, at present, engaged in England, and brought out to the Colony. This, however, is solely owing to the state of the laws; and such may be possible, so soon as attention is paid towards protecting the person who engages them against loss, a protection which does not now exist. Having, however, convict labor, ticket-of-leave men, and the power of bringing men from China, there can be no want of laborers, provided the proper care is taken of the general interests of the present residents. Convict laborers are, however, dear, because they perform little work, and consume a great deal. Now, from what has been

said, it follows that free labor will be cheaper, so soon as you begin to supply your own necessaries: at present you have to pay for it by the expenditure of real capital; but afterwards the free man will work for what he may consume, together with his share of increased produce, or in other words, labour is exchanged for labour; your profits being your share of the production over his consumption. I feel, therefore, convinced that there will be no want ultimately of labourers.

But here there is a weighty consideration intimately connected with this subject. Let us look forward to Bathurst forty years hence, no attempt having been made during that time to ward off the evils of a convict population. These persons acquire wealth; their families grow up uneducated, and nearly as corrupt as themselves. The children of the free settlers also increase; there is an approximation betwixt them in point of character; the one is indeed somewhat improved, but the other is greatly deteriorated. Closer connections are formed, by junction of interests, intermarriages, &c. Other emigrants arrive, who look with just suspicion on both of these; keeping, for a time, aloof from intimate communication, while the others, like sharks, consider the new comer as their prey. Mutual and general animosity ensues; each shunning his brother as his enemy, and looking for venom in every smile. Is not this the present condition of Sydney? Therefore, unless means are adopted to prevent it, the same must likewise be the invariable result. The occasion of this state of things has been the convict population; and the evil is only now beginning to be felt, for the disease has by no means yet shown its deep seated powers of corruption.

If a colonist marries, his family produces wealth to the state, in proportion to the manner in which he may be reared; while, on the contrary, that of a convict does an equal degree of evil. This class may be considered, indeed, similar to the slave population, but their progeny produce a greater and more immediate degree of mischief than the African, whose descendants long keep at an immeasurable distance from the European. The only mode of preventing, in my opinion, the evils to which I have here alluded, is to educate the children of convicts, and get rid of the addition to the convict population as speedily as possible.

The first law of nature, with regard to children, is that man is the protector of his own child. This is only during a savage state; but in a civil and free jurisdiction, the government itself is the real protector, and the father is responsible to it for his conduct towards his child. This is natural law; if a man, therefore, is unable to educate or bring up his children, so as to become useful members of society, it becomes the duty of the government, or the holder of the land, to do so on his account. This is likewise natural law, and is

recognised in the limited scale, although seldom acted up to when those principles become more extended. Some of the United States of America, have now, I believe, adopted this maxim. I conceive, however, that a degraded man becomes incapacitated, *ipso facto*, for the education of his own child, whatever may be his wealth, whatever the extent of his abilities. A child must be taught self-respect, who is to become a producing member of a community. But it is impossible to enter here fully into the nature of the education required; my attention has indeed been directed to the subject; yet the contents of a volume cannot be concentrated within a few pages.

I would strongly recommend, that a petition be forwarded to the Government on the subject; to the effect, that all convicts marrying within the district of Bathurst, should give up their children for education. If the parents defrayed the expenses attending this, these should still be considered as their children; but if not, they should receive such an education as would qualify them for the particular trades in which they intended to embark. Neither should this education terminate, until they were ready qualified to commence such future trade or profession; as is now the case with the orphans of the colony, who are carelessly thrown on the wide world at the period when they chiefly require a protector. Your manufactures will afford ample scope for the employment of those youths; and if the proper attention is paid to them in early life, you will not want a race capable of advancing onward, by means of the example set them by their benefactors. I trust you will not suppose that I would here propose the common routine of education at present ostentatiously pursued in charity schools, &c. If no more enlarged views are taught than what is obtained from them, namely, the same that have passed current for information these four thousand years, the natural protector of such children has not performed his duty; neither having laid so slender a basis, has he a right to look for more beneficial results from it than that recorded in the early history of the world. By merely halting at the threshold no progress has been obtained; and the children have no cause to be grateful to their natural guardians for their early treatment.

I shall not, however, delay you longer, but leave these subjects to the considerations of yourself and neighbours; and in the expectation that my present communication may be acceptable to them,

I remain,

Yours Faithfully,

JOHN HENDERSON.

Wellington Valley, July, 1830.

CHAPTER III.

Preliminary observations on the settler, and effects produced by the investment of capital.—His arrival in the colony; a description of his proceeding to his grant, and another of him after taking possession of it.—The tendency in the settler to retrograde.—Effects of his equality with the convict, and with the free population generally.—As the convict can be rendered productive, the principal obstacles which oppose the emigration of a higher class of settlers may be removed.—Proposals for constructing farms, and also for introducing a superior class of settlers along with laborers, &c.—Tenures and sales of land, quitrents.—Mercantile settler; private and public buildings of the towns; population of these and their occupations.

In order, as much as possible, to simplify this subject, let us first inquire into the effects produced by the investment of capital, with regard to its powers of advancing a young colony. In order that the value of the facts which I shall afterwards bring forward may be clearly appreciated, let us suppose a man, rather below the middle rank of life, in former possession of the colony of New South Wales, having sheep, cattle and convicts; the last producing corn, equal, or somewhat surplus, to the general consumption. While he is there alone, the stock is of no value, because it cannot be sold; but suppose that a cousin of his comes to join him, bringing with him capital in specie, which specie he gives to the first colonist for half his stock and convicts, in order that he may commence trade on his own account. What are the effects of this change, first, on a growing export such as wool? We have nothing to do with what the first colonist laid out; we take him as we found him; his flocks, herds, &c. were of no value,—they were unsaleable; the proceeds of wool were consequently clear gain.

We have, however, by the arrival of the second colonist, given a value to these; therefore, food has now acquired a value proportional to the capital brought by the second settler, and the convict labor has done so likewise; consequently we diminish the profits of the wool, without increasing the quantity produced.

The first effect, therefore, of increase of specie in the young colony, is to diminish the profits on a growing export; the second is to diminish, in consequence of the increased price of labor and of raw material, the power of that colony to bring a new export to perfection, and into competition with that of another country.

Again, with regard to production; suppose both settlers are a little below the middle rank of society in the Mother Country, and that one of them has thus suddenly acquired a little fortune, by having become possessed of his cousin's capital. He would naturally attribute his good fortune to his own management, and quickly expend his money in foreign produce. He would relax in

his efforts, and send to the nearest market for a bottle of rum, inviting his cousin, and perhaps one or two of the best of the convicts, to partake of his hospitality. During this conviviality a general happiness would prevail throughout the limits of our infant settlement. The convict would relax in his labor, and the working bullocks fatten for want of occupation. The cattle would become wild, roaming from pasture to pasture, and luxuriating in the hitherto unknown sweets of liberty. The native dog would prowl forth, unheeded by the farmer's hitherto wakeful shepherd, and fearlessly seize, by night, the portion of the young flock which had escaped the talons of the eagle hawk, during the course of the day. The liquor might be soon expended, but things would not, on that account, return to their former state. The first colonist would not renew his efforts with his former energy; he has thus acquired habits of sensual indulgence, and idleness, and would naturally content himself, therefore, by anticipating the arrival of another cousin, to whom he might write the most flattering accounts of the prospects of the new country, in order to induce him to deposit his capital in his hands, in exchange for what would otherwise be of no value.

In the mean time, how does the second colonist act? Let us suppose that the necessity for exertion has prevented his being led into the former's idle habits. He will, notwithstanding, attach great consequence to the experience of the elder; he will carefully pursue his footsteps, without looking either to the right or to the left; he will foresee no changes, save those which have already occurred; nor will he take thought for the morrow, since he will implicitly believe that the morrow must ever be as yesterday. But even should this not be the case, still it is evident that the capital he has brought has not only been useless, but prejudicial; *and that since the colony is not yet a manufacturing country, its productions have not been increased, but really diminished in a ratio proportional to the capital last invested.*

It would appear, therefore, that the increase of specie into the new colony, or the investment of capital, whether by the Government, or by individuals, is prejudicial to its rising progress, and tends to restrain its productive power. To this cause may be attributed the sudden rise of the United States of America, on the annual expenditure of the Mother Country being discontinued; since necessity compelled them to draw the common articles from their own resources, for the supply of which they were before totally dependent on the Mother Country. The general cheapness of agricultural produce, also consequent on withdrawing the English capital, at the same time affording them the means of exporting their raw or manufactured produce to their own or to foreign states.

The benefit, therefore, which the new country derives from the second colonist is not from his capital, *but either from his* individual *labor, or from his abilities as a superintendent of convicts.* It is, therefore, necessary that, in our future investigation, we should consider the settler as a laborer or superintendent of convicts. As a laborer, working for his own individual advantage, I would estimate that his work would equal that of three, or perhaps four convicts, working for a master. But if we consider him as a free laborer, working by the day for a master, the laws, with regard to free servants, remaining as they are, I would not be justified in estimating him as even equal to a convict of the same trade, taking into consideration, at the same time, his different description of wages. As a superintendent his value cannot be even approximated; it must entirely depend on his ability and steadiness; he is of the same value in this light as an officer is to a soldier. He is, in fact, the moving power; and his own exertions may be deemed often equal to all those whom he may superintend. In a country, therefore, where the greater proportion of the population are convicts, and where these are unproductive, as we have already shown them, superintendents are more requisite and valuable than laborers; for according to the abilities of the superintendent, so will be the total produce of the exertions of the laborers. Also, having proper superintendents, on there being found a deficiency of laborers, these will not be long unsupplied; for having now obtained the head, it will be of itself able to find a hand. In other words, *it is only on the energies of men of ability and education that the Mother Country ought to depend, in order that the productive powers of a colony, similarly situated to New South Wales, may be most rapidly developed.*

I shall now endeavour, as briefly as possible, to trace a settler in possession of the requisite capital from his arrival in the colony to his settlement on his grant of land, whether in Van Dieman's Land or New South Wales. In both countries the expenses are enormous to a person on his first landing; and the settler whom we suppose to have a family, is soon convinced of the necessity of removing from Hobart Town or Sydney, as speedily as possible. The difference in the two places is, that at Hobart Town the present Governor appears to take a personal interest in the prosperity of the new comers; receives them kindly, and endeavours to introduce those of the better class, by means of his table, to the other settlers. This is doing, therefore, a little, and that little is of some consequence; whereas at Sydney they are left entirely to themselves; and generally without a single friend to apply to, they must unravel, as they can, the thread of their future destiny.

Previous to receiving a grant of land, the settler must go through several offices; he must show his capital to the Land Board, and receive an order to select a grant of land; after having selected it, he must then procure an order to take possession of, it, or in colonial phrase, to "Locate." Simple as these steps may appear, the settler may consider himself fortunate, should he have got through them in Van Diemen's Land in two months, and at Sydney in, sometimes, double,—nay, in certain cases, I have heard of triple that period being expended, even supposing the individual himself opposed no delay in the selection of the soil. The heart-rending suspense and disappointment which these delays produce, as well as the rapid diminution of capital, consequent on a residence in the colonial presidencies, tends not only to disgust him, and paralyse his mind, but detracts materially from his future means of improvement. To this indeed it may be objected, that there may be policy in such delay; since if the increase of specie is detrimental to the colony, the sooner that it is expended the better. The settler's capital, however, acts detrimentally, whether in his own hands or in those of others; but its influence is most deleterious when it is expended in unproductive produce. Again, we have observed, that this colonist is only useful as a superintendent, and that his value is in proportion to his abilities; now, according to the regulations of the Government, his powers of becoming a superintendent are in proportion to his capital; consequently, the depriving him of it has the effect of reducing him from a superintendent to the condition of a laborer; or if he is incapable of the last, taking from him altogether the power of being useful to himself or others.

The Land Board investigates the amount of capital; and if the settler possesses, I believe, £1000, he obtains a maximum grant of 2560 acres, or the square of two miles. This Board must have been first, I presume, established, to compel the settler to entertain and provide for a certain number of convicts, according to the extent of the grant allotted him; if, however, this had been the case, it is no longer so, constituting another instance of a regulation, laid down at first with an apparently good object, but the policy being soon lost sight of, the evil effects, at length, only remain, rendering it extremely difficult to trace the circumstances under which it could first have originated. Even admitting, however, that the abovementioned policy was required, and that capital which has been shown to be so prejudicial was necessary, still it by no means follows, that the Land Board is calculated to obtain this object. It appears to me, on the contrary, to be a useless and expensive establishment to the Government; a means of retarding, by expense and delay, the efforts of the settler, while it constitutes no check against deceit, should

that be intended to be practised. *There are few men indeed who could not borrow sufficient capital for the day, to exhibit before the Members of such a Board.* Would it not be sufficient to attach to the application for land, a declaration on the part of the settler, countersigned by any respectable authority, stating the amount of capital virtually belonging to him, and by this means remove the first barrier to his progress? Formerly, I was assured, that a settler used to be treated by this Board, almost in a similar manner as a convict; but the system has now, I am happy to say, given way to a more liberal policy.

The settler's papers, having now passed the Board, are forwarded to the Government, who attend to them when the general routine of business affords them sufficient leisure. In this, one observes the first indication which would lead to the conclusion, that Government were rather inimical than otherwise to the settler; and I fear, that a more intimate acquaintance will tend to prove, tha the interest of the settler has ever been considered as of secondary importance. The Government duty is with the convict; and it would seem that it viewed the struggles and exertions of the settler with apathy and indifference: often manifestly opposing his interest and improvement; drawing, directly or indirectly, from him his resources; and never coming promptly to his assistance, unless when its own or the convict's interest are obviously at stake. Such has appeared to me to have been the epitome of the Government policy towards the settler, since the commencement of the colony; instilling, even on his first arrival, feelings and antipathies to its prejudice, which afterwards become almost a portion of his nature. The disappointments and delays may indeed frequently induce him to become the fawning sycophant; still the same feelings or prejudices with regard to it will remain; he will be inclined to view all its future acts with suspicion: when it attempts to control him he will consider it oppression; and where it proposes to reward his neighbour, by its approbation or favor, he will ascribe it to bribery and corruption.

The next office to which the settler must apply, is that of the Surveyor General, in order to obtain information regarding land, and to forward his succeeding papers, &c. to Government. As we have afterwards, however, to take a general view of the Surveyor General's Department, under the head of Government, I shall only here remark, that the intelligence furnished there, is meagre in the extreme; nay, even with regard to the occupation of land, I am told, that it is in New South Wales very far from accurate. This occasions the settler great inconvenience, since after travelling over half the colony, at an unnecessary expense, in order to obtain local information from his brother settlers, whose interest it is to withhold it from him, and after having, as he conceives, made his selection, he finds, upon

forwarding his application, that the land has been given away, or is about to be given away; that it is either to be sold, or that the title to it is now a matter of dispute. It is not uncommon, therefore, for the emigrant to make three, four, or more selections before one may be approved of. This period is, perhaps, the most irksome of the settler's life; for although, during that time, suffering none of those hardships to which he has soon to be subjected, he is called on without experience, without a friend or guide, to take a most important step, and one in which his own interests through life, as well as those of his family, are deeply implicated. Acting, therefore, to the best of his judgment, but with every one apparently opposed to him, he labors under the conviction, that he is proceeding wrong, because aware that a year's experience would furnish him with different views of the future, from what he could possibly entertain on his first arrival in the country. The wide field tends likewise to confuse him, and it is, therefore, no small relief to his mind when he has at length selected his land, whatever may be its quality or its situation.

But it may be reasonably asked, why is a new comer thus called on to make his selection, before he is qualified to judge properly for himself? Why does he not take a farm, since these are to be had, and the rents are moderate? His interest ought to teach him to gain time and information without expense; and that a year's experience acquired on a farm, which will merely cover his outlay, is at this juncture of more consequence to him than the value of any profits he may derive from it. But he is ignorant; he thinks the best land may be occupied, and that if he expects to overcome the difficulties of a first settlement, the sooner he commences laboring the better. Why should he toil, he may conceive, to improve another man's land, when the same labor might render his own productive? The chief obstacle exists, however, in the Government regulations, obliging the settler to commence expending the nominal value of the land in actual improvements, immediatly on taking possession of the grant. These, one would imagine, had been framed on the idea, that capital expended or wasted, was equally advantageous to the colony. The principle which I have endeavoured to prove, in the last chapter of this work, could never have been suspected, namely, *that the slower, and smaller the capital first sunk on land, the greater advantage, after a term of years, is derived from the amount so invested.* Notwithstanding these regulations, however, even in the present state of things, I should conceive it to be for the advantage of all settlers, on their arrival with sufficient capital to entitle them to maximum grants, to rent farms for three years, if they can obtain such as will clearly defray their expenses; and particularly if the rents are to be paid in corn, and the implements to be returned in kind, at the termination of the leases. With regard to others, who come out with a smaller capital, I would, under the same circumstances,

conceive it to be for their advantage, to hire themselves as overseers for similar periods.

Being fearful lest the length of my pages should, however, alarm some whose curiosity I may as yet have failed to excite, I shall now hasten our settler forward, and after supplying him through the proper offices with convicts, and purchasing for him his provisions and implements, we shall start him off to locate on his new territory. I shall here attempt to sketch the rough outline of his picture; and though I am unaccustomed to a lighter pen, I hope to be enabled, through fanciful and brief details, to communicate the requisite information to my uninitiated readers.

We shall choose a morning in spring, the sweetest in the year; our place the banks of a dark rolling stream, where our settler and his establishment have bivouacked, for the advantage of the water. A slight sheet for a tent protects them from the midnight dew, and under its scanty canopy are laid the settler, his wife, and three children. Notwithstanding the fatigues of the preceding stage they have slept but little, and are now all awake with the first dawn of day. The sky is without a cloud; the air bracing and delightful. The notes of the early thrush have given place to those of the Derwent magpie, who, perched on a lofty gum tree, is chaunting in rich full notes his natural melody. The restless and noisy minas are disputing amidst the bright yellow blossoms of a neighbouring wattle, while many a smaller warbler is breathing forth, in cheering tones, his early matins.

Close by the embers of a waning fire, are seen the figures of four convicts, the assigned servants, who are sleeping soundly and undisturbed. They are familiarised to such scenes,—old steady hands, who have passed through many a settler; have known a road-gang or two, and mayhap a penal settlement. No care occupies their bosoms; to them the present scene has no charms, and the future presents to their imagination nothing either pleasing or alarming. These sages have been consigned to the settler, in preference to less experienced hands, who might probably have been useless. Near them stands a waggon, containing a portion of the furniture and provisions of the settler; his sea stores, implements of husbandry, with useless and useful articles indiscriminately combined. The implements have been purchased at the highest price, and contain likewise, many things which the settler could have done without; besides which, as he has to build a house, a number of instruments which are required for that purpose, have afterwards to be thrown aside.

Feeding in the vicinity are the remains of a flock of sheep; in the purchase of which the settler has been jockied, both as to the price and quality. His particular friend has, as a great favor, sold him some of his first woolled ones, and only supplied him with

the second sort, most of whom are scabby old ewes, for whose fleece the owner protested he had received 3 shillings per pound, by the latest return of sales. One-third of these have gone astray with another flock, on the road, and it has been deemed at length necessary to proceed without them.

The children are now dressed, healthy, blooming and happy; eagerly pursuing, in company with the kangaroo bitch, some painted butterfly; true emblem of their future pursuits.

The mother is preparing the breakfast. On the ground are spread the remnants of cups and saucers, eked out by tin jugs. A large damper of unleavened bread, made of unsifted flour, has been baked on the previous evening. The tea is *boiling* in the kettle, and a sufficient quantity of mutton chops are grilling on the fire, too much, in the idea of the uninitiated, for a party of twice their numbers; but proving in the clearest terms, that the cares of the emigrants have had no effect in diminishing their appetites. One convict is assisting to get ready the breakfast, another has gone to look after the bullocks, a third is milking the cows, and a fourth is tending the sheep. So far all is well; a fearful havoc has been made in the mutton chops, with corresponding execution on the damper, ere the man returns to acquaint them that a pair of the working bullocks are missing. In these the settler has been equally fortunate, as with his sheep. Having paid for them a proper price, he has found, on his departure, that two of them are newly broken-in steers, which have taken the earliest opportunity of regaining their former liberty, and of rejoining their companions, the free rangers of the forest.

A settler on the road has, however, taken pity on the destitute situation of the new comer, and has generously supplied him with another pair, for only double their proper value. These last, however, probably not understanding this arrangement, have, as in duty bound, returned to their former homes, after their first day's journey.

While, however, the man is gone in pursuit of the deserters, the principal hand of the set of convicts approaches the settler, twisting his cap in his hand, symptomatic of something wrong. He comes to inquire whether master has last night taken out any *backa* or sugar, because the cases seem, *som't curious* and disordered. On examination, it is found that a portion of those articles have indeed been purloined, evidently by a combination of the four, and that, most probably, the man despatched for the bullocks, has gone likewise to convert the proceeds of this into liquor. The settler is seen blustering, threatening, and abusing, while the convicts are acting with stoical indifference, and inwardly enjoying the scene. The settler's anger, however, gives place to prudence, because he well knows he possesses no power to punish them himself, and should

he complain to a magistrate, he would run the chance of losing his whole property, since were they confined on suspicion, he would have no one to attend to his flock, his herd, his team; he would, in short, be left destitute.

We shall now take a second view of our acquaintance, after his location on his farm. Perhaps the scene is Van Diemen's Land; the time is a warm summer's evening. Decked in the remnants of former finery, may be seen the mother of the family, who sits nursing another child, being just recovered from her accouchement. I know the hut well, and see it now before me. It is divided into two; in the inner or sleeping apartment, is seen ranged the supplies for the year, flour, sugar, &c., which require to be locked up. The children's beds are roughly constructed; Kangaroo skins, over straw, constitutes the matras, while blankets or oppossum skin rugs form the coverlids. In the slabs of which the walls are composed, may be observed small holes for the purpose of pointing a musket, in case of sudden attack from the natives or bush-rangers*. The roof is not so close, but the rays of light, in fine weather, and the rain in bad, find each of them an easy entrance. The furniture is of the rudest description; forms, supplying the place of two broken chairs, are set round a table constructed with posts sunk in the ground, having split boards laid over them. By the fire are seen several generations of cats, by some means already collected, who are sitting sedately, as becomes a patriarchal family, the elder ones apparently pondering over their youthful follies. The kangaroo bitch, who has likewise been breeding, would fain take up her quarters by their side, drawn thither by the sweet scented savour of a huge damper, that is now baking in the ashes; but the fleas, which are already insupportable, renders her presence by no means desirable; and she retires to herd with the less favored curs.

The husband has returned from his daily labors, the furrows of care engraven on his sunburnt, but healthy, countenance. He carefully deposits his gun, which he carried with him to the plough, to protect himself against the insidious attacks of the natives, while his children all flock around him, dirty, fat, blooming and noisy. The wife is just making her complaints to the husband, that the servant woman has been insolent, and that her conduct

* Both the wood for constructing the first houses of a farm, and the bark for covering them, are superior in New South Wales. The latter is taken from the box tree, one of the species of the Eucalyptus which is not found in Van Diemen's Land. In both countries the traveller, on frequenting the generality of huts, has frequently cause to regret the equal distribution of nature's bounty, who in blessing with abundance the prolific powers of man and beast, has equally extended her fruitful munificence to the bugs and fleas.

has become so intolerable, that she begs him to send her away, rather than be longer troubled with her. The Abigail being called for, without waiting the attack, presently begins the battle, by abusing the settler and his wife in no measured terms; and on its being arranged that she is to proceed to a magistrate, her friend John comes to request a pass to go also, in order to complain that his victuals are not good, his slops are not properly furnished, his work is too much, or perhaps that he is sick. Thomas, the ploughman, may, for the same cause, have adroitly broken the plough, and now likewise requests leave to go to the blacksmith, who lives 40 miles distant, to escort his companion, to meet his friend, or any other cause; the plough with the bullocks, remaining at rest until his return. Or, perhaps, the shepherd may have just arrived with the intelligence, that a portion of the flock has, through his carelessness, strayed upon the uninclosed ground of his next neighbour, and that his friend has been kind enough to send them to pound, where they will be sold on a certain dav, to the highest bidder, if the expenses, amounting sometimes to the half, or to the whole of their value, be not defrayed within that period.

Let us, however, pass from this rapid picture, to inquire the causes of those things. The climate is salubrious in the highest degree; the frame of man is invigorated, ready for labor, and nerved for enterprise. The soil is productive, and requires but little to render back the fairest of nature's bounty; yet, with all this, may it not be said of man, the lord of the creation, that like the Arab of the desert, his hand is against every one, and every one's hand against him. What, therefore, can be the cause of a Government like that of England, rearing up, in the 19th century, a semi-barbarous colony, groaning under self-constituted burthens, expensive to the Mother Country, and permitting those materials, by which it might be rendered comparatively happy, to lie idle and unimproved?

It is certainly extraordinary, that the removal of a native of England from his own country, to another, peopled by British subjects, should occasion an alteration in his national disposition; such, however, in those colonies is the case, the settler there soon assuming a stronger resemblance to the American character than to that of his own countrymen. A man, after quitting all his friends and relations, is thrown amongst a set of people eager in the pursuit of gain, looking to their own selfish interest, and negligent of all that concerns the welfare of their fellow creatures. Associating with such persons, and permanently fixed amongst them, during the period of his existence, he naturally and easily adopts their habits. Again, he is sent into the wilds to settle, to work as a common laborer, and to sustain bodily hardship, without mental employment. The descent of mankind towards a savage life, is

easy and rapid, while to recover a single step that may be lost, is difficult in the extreme. The mind, however, cannot remain vacant, and consequently the settler soon becomes as expert as his brethren in all the arcana of buying and selling. Mutual intercourse is difficult; not from the distance so much, as from the danger of leaving property unprotected. Indeed, this inconvenience appeared to me so great, that I considered property, however obtained, as being dearly purchased by requiring to be so constantly guarded by the presence of its possessor. The settlers generally retaining all the evil points in their national character, with a diminution of honorable principle, from the society with which they intermix, it is not to be wondered at that friendships between nearest neighbours are far from common. This is more the case I think in Van Diemen's Land than in New South Wales, where an armed neutrality, or a partial demonstration of friendship, is more frequently kept up. In Van Dieman's Land this difference has taken place in consequence of certain impounding regulations, and from transgression of boundary lines; indicating, however, that it would require but little excitement in either settlement to arm one half the colony against the lives of their nearest neighbours.

In Van Diemen's Land also they are rather behind the sister colony in the comfort of their huts and houses; and I may mention, what may seem scarce credible, that at the time I travelled through the former country, when cows could be had at £1 per head, and when each settler possessed his flocks and herds, that sufficient milk could seldom be procured for tea. True, the herd of cattle is there generally inferior; but the giving up those little comforts which can be obtained by a small additional trouble, must infallibly tend towards a return to barbarism. The defects of society, and the general intermixture of all descriptions, may likewise, I conceive, act extremely prejudicially on the colonial character; and this may be increased by the want of inducement to reading, and of opportunities to profit by it. But, whatever be the causes, the fact is plain and undeniable, that the British character in both colonies is deteriorated; nor do I perceive any probable cause, why it should not continue still further to retrograde*.

* In passing through the agricultural parts of both countries I could not help remarking, that had I not been informed of the periods of their respective foundations, but had to estimate it from the degree of improvement of the different farms, I should have concluded, that the greater number had only been commenced about 3 years back, and that none, save a few, in the immediate vicinity of the principal towns, could lay claim to a more ancient existence than that of six years.

The produce of new land in average seasons in Van Diemen's Land, may be reckoned at 17 bushels of wheat to the acre, and of old land, at twenty-three. The uncertainty of climate in New South Wales is so great, that it is

When a convict is consigned to an old settler, who can give him food without having to purchase it, his expense may amount, in New South Wales, to about £5 per annum, for clothing; but it is considerably more than that at present in Van Diemen's Land. This sum is expended in foreign produce, and constitutes a portion of the capital annually laid out. The work, at the same time, cannot, I conceive, be estimated at above one-third of that of a free laborer, working by contract; while the expense in such case of superintendence is very great, as well as the consumption of colonial produce.

In order to trace the causes of this, let us turn our attention to the relative position in which the settler and the convict are placed, with regard to one another. The settler having in his own person no power to punish his servants, and his poverty preventing his rewarding them to any great extent, he feels himself placed at once in a most embarrassing situation. Should a richer or more profuse settler come into the neighbourhood, and give greater encouragement to his convicts, or should any accidental whim take possession of them, they get dissatisfied, performing only so much work as will screen them from punishment; breaking his utensils, losing his sheep, and either robbing him themselves, or getting others to do so. It is generally the practice, in cases of this kind, for them to endeavour, by every means in their power, to get a complaint against the master, which is carried without delay to the nearest magistrate. Should this not, however, be the case, every thing goes wrong at the farm; until the settler himself is obliged to take one or two of the most refractory to the magistrate. He seldom, however, does this until every other means has been tried; well knowing, that in punishing the servant, a considerable portion of the onus falls on his own shoulders.

Let us suppose, then, that the men are sent off, and that the master follows, having to ride an average distance of 30 miles, or some times two or three days' journey in New South Wales. If, however, things went on badly when he was present, they are still worse during his absence; and it not unfrequently happens, that a robbery takes place during the interval. He comes before the magistrate, and during the investigation, stands before him the equal, I know not how, of a convicted felon. The magistrate is called on to distribute justice with perfect impartiality between them, examines into the private affairs of the settler, and shielded

impossible, perhaps, to give a similar average for that colony. The expense of bringing into cultivation on a new farm 100 acres would require an outlay under present circumstances in Van Dieman's Land, of £1000, and in New South Wales of about £700. This difference is in consequence of the annual expense of convicts, which in the one country may be £7 or 8 per head in addition to food, while in the other it will only average £5.

by virtue of his office, he freely remarks on the impropriety of the other's conduct. My blood has often boiled at the recital of some of those trials, while I have thought that no riches could compensate for the injury to those feelings which have been thus legally lacerated. The convict, knowing that his own punishment notwithstanding is nearly certain, feels during this a recompense for what he has afterwards to undergo. The trial is closed; he is either flogged, or sent to a road-gang. If the latter, the settler's sheep or bullocks are without a person to take charge of them, and another cannot be easily or speedily procured; while the convict gets a new master, has injured his former one, has in short triumphed. What commonly follows? The other, at first, returns to his farm, deeply regretting the hour he set foot in the country; but after repeated instances of a similar description, he gets careless, and broken-hearted; vexations increase, he takes to drinking, becomes debauched, dishonest, and at length ruined.

The conviction left on my mind is, that a convict servant is a direct loss to his master; that is, taking the whole of the convicts attached to agricultural settlers: and that notwithstanding their apparent cheapness, this loss is greater in New South Wales, than in Van Diemen's Land, in consequence of the unfavorable seasons in the former colony. I also conceive, that however successful the present system may apparently have been, in rendering the convict population less injurious, another which had for its object in the first instance a stricter surveillance, even as it regarded this object, would have produced still more beneficial effects. The present system, instead of promoting the interest of the country, has tended materially to retard its progress. It has degraded the settler without raising the convict. It has laid the foundation for evils which, I fear, no change of measures will effectually remedy. The convict, far from what would be expected, is generally a coward; his previous habits cannot be easily eradicated, and unless the first symptoms of insubordination are watched and corrected, he again relapses, becoming injurious to his master, and likewise, as an example, pernicious to his companions. Now the settler has neither power to attend to this, nor is it his interest. On the contrary, he must shut his eyes against petty depredation, insubordination, &c. and thank his good genius that things are not so bad as they perhaps might be.

Why, therefore, I would ask, does not the Government give the requisite power into the hands of the settler, demanding from him, at the same time, a strict account? The Government would immediately declare, that such would be totally incompatible with the principles of that cameleon-like thing, the British Constitution: but when driven from that fanciful fortification, it would perhaps, with justice, declare, that the average description of settlers

are, at present, unfit for such a trust. The jealousy of power would enable it to cite a thousand instances of oppression of a settler, while the one hundred thousand instances of the opposite description would remain unregistered. Allowing, however, in the fullest extent, that the average of the settlers are at present unqualified to be entrusted with increased powers, let us inquire, whether advantage has been taken of those who are known to be qualified for a confidence of this description? and secondly, whether if it were found requisite, a higher quality, suitable to our purposes, might not have been drawn from the Mother Country?

In England it has been shown, that the work accomplished by the convicts, has been made nearly to equal the amount of their expence; and if this is the case in an overpopulous and embarrassed country, what reason can be given why they should not, in a new colony, be rendered productive beyond their expenditure?

To enter at once into this subject, let us suppose the settlers to be divided into two classes, those that are qualified for the charge of convicts, and those that are not so:—the one, constituting the educated and respectable class, the other the uneducated and inferior portion of the community. As we have already examined into the consequences resulting from the investment of capital, let us now observe, with the same attention, the effects produced by treating those two classes with perfect equality. Convicts are distributed equally betwixt them, grants of land are indiscriminately bestowed, &c. Now, although it may be admitted, that a convict, for his crimes, may be justly punished, by being made the servant of a man of the lowest class, still as our object is to render him productive, can we conscientiously expect that this will be accomplished, by placing him under one as prejudiced and ignorant as himself? The punishment is, in this case, with regard to the convict, unequally distributed, since those who are servants to the higher class have a greater chance of becoming productive than when bound to those whose only claim to such trust, is, that they are not like themselves, at the moment, under sentence of the law. The first class of settler has, in the mean time, been deprived of his mechanic, his free laborer, his superintendent. These have become his equals, proprietors of land, slaves, &c., and their numbers being infinitely superior, he is lost sight of, and has become proportionately unproductive. The two classes, when united together, were powerful, they constituted the head and the hand; when separated, they become both proportionally unproductive.

To those who have been surprised at the sudden change produced in the characters of the inhabitants of a new colony, compared with that of the Mother Country, this enigma will now be

solved. Government has raised a competition between two classes, which should have been inseparable; and the effects are felt, not in the increase of production, but in its diminution. A class of men are raised above their proper condition, without any previous alteration to prepare and qualify them for such a change. Is it not natural that they should look with a giddy eye around, and frequently mistake the meaning of the words, liberty and licentiousness.? Why should the Government then view, with surprise and indignation, those beings, whom they have rendered free and independent, when they find them armed, and ready to attack those from whom they first derived their powers to be injurious, but who have omitted, preparatorily to teach them their proper application? By giving small grants of land, the kernel of the soil is placed in unproductive hands, while the giving grants of land at all to an inferior rank, lets loose, upon the better settler, a class of men highly prejudicial to good order, and who are at all times inclined, when they have the power, to consider his property as their peculiar prey.

But it may be asked, if the superintendence of convicts was confined to the higher class of settlers, what would be done with those unemployed? Are these to remain in the hands of Government? or does it possess the means of rendering them productive? That it could render them productive, I am thoroughly convinced; as also, that it would have taken the necessary steps to do so, long ere this, had the Home Government considered the expenditure of sufficient importance to insist on such measures. In order to effect this, however, it is evident, that the higher class of settlers being otherwise employed, we must bring out from England a sufficient number of superintendents, who are qualified, by their education, to be placed in confidential situations. Amongst the rises of empires, it is generally allowed, that the British Government in the East Indies, is one of the most extraordinary in the history of nations. What has been the secret spring, by which it has acquired its present preponderance? The French nation have made several attempts; their Governments have frequently begun to blossom fairly, but withered under the passing storm. The Portuguese and the Dutch have had equally favorable opportunities, and likewise failed; while at the same time, the success of a body of British Merchants has been such, as to excite the envy of all the nations of Europe. Is not the reason to be found in their having, at an early period, selected their servants from the flower of the British nation, in their having required them to be men of education, increasing that education with the extent of their empire? In their selection of legislators, they have been, in general, equally happy; and the confidence which these again have required to place in their subordinates has, in consequence, rarely been abused. Might

not this lesson be useful in a new colony, where its future progress so much depends on the first foundation.? Might not the Government of these colonies have been beneficially transferred, from a transitory ministry, to a fixed power, vested in a set of men similarly constituted to the Court of Directors? To the advantages resulting in this case from a steady system, one might then naturally expect, that the colonies would no longer be sacrificed to support the ephemeral power of a British ministry. But we ought chiefly to anticipate that the expenditure should be steadily and jealously watched, nor would it, under such a supposition, be considered safe for a ministry to bring before Parliament, an annual account of disbursement by the Mother Country similar to the present, viz.

Annual Colonial Expenses for New South Wales and Van Diemen's Land, averaging	£300,000
Annual expense of transmission of an average of 4,400 prisoners, at £40 per head,.....	176,000
Total,	476,000

Total Colonial Exports, £140,000 *!!!*

Dismissing, however, this subject for the present, let us now bring out from England our superintendents, who are to be all well educated young men; and having done so, let us hold out to them inducements proportional to their exertions and experience, sufficient to stimulate them to application and industry. It will, after this be no longer necessary, invidiously to send out from the Mother Country, the dependents on ministry to monopolize the higher and more lucrative situations of the colonies; a proper stock of experienced and qualified individuals having thereby been obtained, both economy and prudence will indicate that vacancies, save in the highest situation, should be filled up from those most deserving and qualified in the rolls of our new establishment.

It is next indispensably necessary, that the annual emoluments of these should be made to depend upon their own exertions, and that of those under them. Instead of fixed salaries, whether they were usefully employed, or remained idle, they should receive whatever might be the value of their established proportion of the whole work executed; for if the head of a department has not a powerful and constant interest in its success, it is unreasonable to anticipate that it will ever be brought to a proper state of efficiency, or, that economy will be adopted in its details by those to whom the outlay of the capital is a matter of comparative indifference. Although the advantages held out to the young superintendent may consequently be at first but small, still, when in addition to these, the situations of the Government are thrown

open, the inducements, I should imagine, will be found amply sufficient to lead the requisite number to accept of employment.

We shall assume, that our first object is an agricultural establishment, and that we have selected a situation such as to enable us to commence operations on an extensive scale. In other words, instead of having small patches of cultivation spread over the country, by which the price of production is increased, and the rudest system of agriculture is pursued, we should concentrate our means, commencing at proper distances such an extent of cultivation as may be deemed requisite, after calculating the quantity of corn that is required to be supplied. By this arrangement, instead of copying the progress of former ages, we should at once be enabled to commence, with the aid of those improvements, derived from European discoveries, so far as they could be rendered applicable to a new country.

Although it will afterwards appear, that our next step requires a certain gradual progress, we shall here assume, that we have placed upon the land, the requisite number of hands to bring it into cultivation. Our first endeavour ought naturally to be to establish amongst our gang, a system of subordination in a continued chain, similar to that of Military or Naval discipline, or perhaps, to that of the Jesuits of South America; a solitary instance in which their power is allowed to have been productive of beneficial effects. Arrangements should be made, in order to punish, immediately, the first symptoms of misconduct, instead of awaiting until the disease has gained ground, and become contagious. Idleness or insubordination should receive the necessary correction, so soon as these have excited observation; restraining the punishment to that which may be found just sufficient to prevent a repetition of the offence. By this means, I conceive, that more than one-half of the present causes may be removed, owing to which, a convict is first flogged before a magistrate, then placed in an iron-gang, from whence he is sent to a penal settlement, and probably afterwards executed for some daring robbery. It is in this that the present system is so deficient. There is no punishment or check to the first offence; it must be aggravated, or in other words, the disease must have taken root, ere it is the interest, or in the power of the settler, to bring forward the convict for punishment. It is this also which renders the latter, in a great measure, unproductive, while it entails on the Government an enormous and unnecessary expense, more than one-half of which could be easily and advantageously avoided. Of all the observations I have made, I know not one I would desire to impress more fully, than that the result of every system for the treatment of a convict, instead of resting on the secondary punishments, must mainly depend for success on the immediate and certain

check that is given to the first appearance of offence; *for wherever that first check is restrained, the punishment dilatory, difficult, or withheld, the result must be, that the convict population will become unproductive; the prisons will be filled, while public security will be endangered, and human life sacrificed in proportion.*

The connecting line of subordination, being from the common convict to the better behaved or meritorious, and from thence to the laborer or mechanic, up to the superintendent; each degree ought to possess a power of reward and punishment, on his own responsibility, and proportional to his station; commencing from petty indulgence and privation, and proceeding to real rewards and punishments. The greatest punishment, in the power of a superintendent, ought not to amount to what would induce a man to abscond, or as it is called, take to the bush; but where greater severity might be required, a magistrate ought, in such cases, to be resorted to. When absent from the general superintendent, the powers of all the subordinates would require to be increased. The punishments should be of several kinds, varying not so much in degrees of severity as to suit the different descriptions of individuals, and to prevent their becoming callous to one particular sort. Rewards ought to vary in a similar manner. A man will toil, and risk his life, for a bauble, which, when obtained, is quickly despised; he will only do this once, and the inducement must, therefore, be altered, if we intend to excite renewed exertion. In their houses, and during their hours of leisure, the convicts ought to be separated into small parties, for it is injustice to the better disposed, to insist on their intimate association with large bodies of their brethren, as is now the custom, wherever Government operations are carried on.

It has been mentioned to be indispensable, that the head of the department should receive his allowances solely from the proportion of the work accomplished; and it would be an additional advantage, could the same principles be extended through these higher branches of the Government, whose duty it may be to superintend the improvements of the country. Such is, however, rather a desirable object than one, perhaps, attainable under present circumstances; but it is absolutely necessary, that the whole chain of subordinates and convicts should, in addition to future inducements, derive their present allowances from their own individual exertions, or from those over whom they may be placed; and the greater degree of minutia to which this system can be reduced, the better right have we to anticipate regular and constant exertion from individuals, or general efficiency throughout the whole department.

Assuming, therefore, that the above reasoning has been found correct, and that Government felt convinced that in its own hands

it possessed the power of rendering the convict productive; also, that the Mother Country, at the same time, looking forward to a period when it would be no longer for the interest of her present colonies to be retained as penal settlements, perceived the urgent necessity of bringing out a higher class of superintendent settlers, to lay the foundation for an improved society; what course ought it to adopt to accomplish so desirable an object? At present such persons are but thinly scattered over the country, because they have never been encouraged to emigrate. It has been considered sufficient, in the first settlement of a new colony, to introduce the working class: perhaps, supposing, that being possessed of the hand, the head would, in process of time, germinate of its own accord. The slothful legislator has contented himself with the complacent soporific reflection, that every thing, according to the present principles of Political Economy, ought to find its own level, provided it is but left quietly to pursue its own progress. All the colonies hitherto have been erected on similar rough and loosely united foundations, containing but a small admixture of a harder and better prepared composition; and when they have afterwards risen from insignificance, the engineer has been utterly astonished to find the superstructure containing a wonderful proportion of the rude materials of the primitive basis.

In order to induce men of a higher class to emigrate to those colonies, it would appear to be advisable to inquire into, and endeavour to remove the chief obstacles that would tend to prevent such persons from coming out. After quitting his native country, the settler, with a family, has to surmount the miseries and hardships of a first settlement, which are, of themselves, considered as a sufficient equivalent for any advantages that may be subsequently derived from emigration. But in addition to these, there is the present state of the colonial society, of which he is to be constituted a permanent member. In this there is at present a just and valid ground for hesitation, ere that description of settler should determine on taking a step which is afterwards to be irredeemable; and a father, judging for the interests of his family, and estimating the benefits derived from the possession of property, while the former are descending in the scale of society, has sufficient grounds for preferring restricted resources to their moral degradation. Without, therefore, inquiring further, but assuming that these were the only difficulties, might we not find means of removing the first of them? Also, have we not it, likewise, in our power to alleviate, if not eventually to remove, the last and more serious obstruction?

I have asserted, that the convict can be rendered productive in the hands of Government; and I may here mention, that the position has been fully borne out by insulated experiments already made,

and to which I may afterwards have occasion to allude. The first operations on which we would employ those convicts under the Government, would be that of constructing a number of farms upon certain fixed plans; erecting on them a tolerable dwelling house, with out-offices, &c.; clearing, enclosing, and cultivating a certain quantity of ground, and also preparing and stocking a garden, &c. In the execution of this the Government would possess a decided advantage over the settler; and supposing the expense of superintendence to be equal, the work could be accomplished at one-half of what it would cost the latter. Those who would be engaged in building, would know their business, and go about it in a different manner from the servants of the settler, whose men, at the best, are only general laborers or mechanics, and consequently, the operation may be nearly completed ere they have acquired the easiest mode of executing it. The tools of the former would be of the best description for effecting the purpose, whereas those of the settler are few in number; and when the work is accomplished, they are thrown aside as useless. It would be the same with all the other parties employed, whose work would be distinct, and its execution easy, in proportion as the individuals had become accustomed to it. The nearest farm, or that last cleared, would form a nursery for the next, supplying it with grain, meat, working bullocks, young plants, &c. whereas the settler has to pay capital, often at an extravagant rate, for all of these, sometimes during the first three years of his residence on his land.

When we have constructed a certain number of farms of this kind, and stocked them with a due proportion of sheep, cattle, and farming implements, with sufficient produce for the consumption of the settler and his establishment, for a given time, let us rent these for a term of years. The rents, we shall here suppose, are to be paid in kind, until we can suggest a mode by which the produce can be turned into money. The farming utensils, in an equally efficient state, the stock and produce for consumption, would be left on the farm at the termination of each lease. The settler having first arrived in London, would transact all the business which is at present required to be done at the public offices in the colony. He might there, if such should be deemed necessary, give some security for the rent, or for fulfilment of conditions, and the Government would take upon itself to have him despatched in a proper manner, from the vessel to his farm, without permitting him to be detained in the colonial presidencies, until he has, at least, been once fairly established on the property assigned to him. He has, therefore, now been provided for the time with a homestead, servants, and a sufficient quantity of ground for the collection of stock. His own capital is, in the mean time, unemployed, and, therefore, ready to be invested, when convenient, in another property, should he be inclined to persist in agricultural occupations.

But if it is found that the Government could have placed the farm in a productive state, at a smaller expense, and in a better manner than the settler, why may it not proceed on the same plan with regard to his permanent property? By this means the true advantage of the convict would be obtained, by making him the pioneer to the settlement of provinces; and surely, if hardships are indispensable on the first settlement of new countries, it is no small point gained if we can, at the same time, convert these into a source of advantage to the Mother Country.

Therefore, suppose that we now alter our plans, and instead of constructing farms, that we improve at once the grants or permanent residence of the settler, completing and stocking them as we proposed to do with farms. In order to effect this, however, we must be possessed of an intelligent set of surveyors, who are qualified to mark out the proper situation; nor are these, at present, to be found within the colonies. But having overcome this difficulty, it would likewise, in this case, be obligatory on the new settler to take such grants as were prepared, thereby depriving him of the selection of an unlimited range of country. Still in this selection he receives the advantage of talent and experience, which would be opposed to his ignorance of the country, and its capabilities; also opposed to the indecision produced by the extent of the selection, and the stake, which he is aware must depend on his determination. So far, therefore, from an injury, I should consider it as conferring upon him a real benefit. A great public advantage would likewise be gained in the regular settlement of the new country; where, instead of having, as at present, a small population, thinly distributed over an immense extent of territory, by which the price of production is greatly increased, we should have the farms laid down, with a view to general advantage, and the space occupied always in proportion to the population. As, however, the capabilities of a given situation are frequently only observable after the completion of certain improvements, the taking from the individual the choice of the spot, might afterwards appear less advisable than would virtually be the case; but even this might be partially remedied. As the difference between one farm and another would only consist in the improvements, for which alone the settler would have to pay, and the stock and implements being the same in all; were an individual, after becoming acquainted with his farm, to find cause to change his position for another, he might be permitted to do so, on a fine being paid, which fine would become the property of the person who took the farm which the other had vacated. Another advantage would likewise be derived from adopting this system, since it would insure, in the fullest extent, the completion of all those improvements of the land, on the execution of which tenures are now

granted by the Government, but without the power of insisting on their fulfilment; while, instead of compelling the emigrant to become half uncivilized, during a great portion of his life, in order that he may overcome the difficulties attending a first settlement; instead of losing his time in exertions where superior acquirements can be of little avail, we should thus place him in a situation, where, from the period of his arrival, he might become a useful and productive member of society.

But in carrying these plans into execution, let us not forget the motive for which they were principally proposed, namely, to introduce into the colony a superior description of settler, and which we endeavoured to accomplish with, at the same time, advantage to the state. Hitherto we have supposed the landholder to be possessed of capital, although we are aware of the injurious consequences produced by it. Capital, in the form of specie, we have observed to produce the same effects, as an over issue of paper money; tending to lessen the powers of the exporter, and to depress the energies of the colony. In no country is it a true representation of wealth, and least of all in a young settlement. There it is only a more expensive kind of forced currency, of a worse description than that which was resorted to in England during the war. In taking this from the Mother Country, it likewise deprives her of a portion of her energies, since the old and the new countries are by no means similarly situated. Although, therefore, it may be observed, that the amount is merely transferred from the landed interest to the pocket of the merchant, this is not accomplished without very considerable loss. It appears to me to resemble, in this respect, a fluid passing through a porous tube; at first it fills the whole of the orifice; but in consequence of the absorption, when it reaches the extremity, it is only discharged in drops.

We have certainly no reason to expect, that a person, with capital, is by any means possessed of the qualities we are in search of. We require men of talent and education, *not only for the purpose of rendering our young colony immediately productive, but to lay the foundation for its future society.* Let us then, again, modify our system, and instead of exchanging our newly made landed properties for the cost expended, to men of capital, let us now place upon them men of education, but without capital. In this case, the individual would still have to pay gradually to the Government, the amount which the latter had laid out; and we shall again suppose, that this is done in kind, leaving the consideration of the transfer into money for future consideration. Here, therefore, we come directly to our object; nor shall we find difficulty in its accomplishment. The younger sons of gentlemen of the three countries, will gladly accept of our proposals; and in the selection of these, patronage may be exerted to almost any

extent, with but little detriment. All that the colony requires is, that the education be liberal, and its routine defined; while the ordeals through which the candidates may have to pass, in order to evince proficiency, is such, as to ensure, in the fullest extent, the double purposes for which these have been established. As further inducements, the vacancies occurring in Government situations should be filled up, by selection from amongst the more deserving of this class, in an equal proportion, as from those first mentioned, who are in the immediate employment of Government. Perhaps it would be likewise advisable, that the former should be married before their embarking for the colony.

We must never, however, forget, that the proper foundation of a new settlement is still an arduous undertaking. We are not forming an establishment of shepherds, who are to rise in the course of a thousand years, through different stages, to the average scale of civilization of other nations. We are transplanting a sucker from an ancient tree to a different soil, and it will require our utmost attention to prevent it from degenerating. This cannot be accomplished without the aid of talent, accompanied by great exertion; nor can these be rendered thoroughly available, if measures are directed by the fortuitous pursuits and opinions of individuals. The executive power must be strong and united, carrying with it the whole energy of the state; and when this is the case, what obstacles can oppose its progress? Government must, in other words, possess whatever power is required, in order fully to accomplish its objects; and its connections must be kept up by an unbroken chain, from the highest to the lowest, and strongly united together by individual interest. We must not be deterred from accomplishing this, through prejudiced affection for the institutions of the Mother Country. Bigotry and custom have rendered the subjects of Great Britain warmly attached to her institutions; but when engrafting these upon a new country, the legislator ought to weigh well, whether they are best suited to advance its interests; and certainly none ought to be introduced which have not some more substantial support than prejudice and custom, for their foundations. In planting a new vineyard, do we not study to improve on the experience we have obtained in the old one, instead of copying its imperfections? And shall we be less attentive to the interests of a new colony of our fellow creatures?

We must, however, conclude this part of the subject, by taking a brief view of the effects of the plans that have been proposed. We have seen, in the first place, the farmer at the termination of the season, collecting his produce, and paying his proportion owing to the Government, as well as that which may be due to the laborers. A moiety of the Government share will be expended in the construction of similar establishments, and the remainder will

be converted into money, to pay for the foreign produce that may have been employed. Some time afterwards, we observe the convict establishment only on the distant frontiers of the new territory, and their places supplied by paupers or laborers from the Mother Country. These would be, at first, brought out at the expense of Government, but the amount would afterwards be defrayed by the holders of land. Gradually, however, we observe that this class of emigrants have passed away, and their numerous families now occupy their places. The education of these, we should presume, had occupied the first attention of the state, and we accordingly would find them not servilely following the footsteps of their less favored parents, but striving with the older country in all those improvements which tend towards the general civilization of mankind.

I have stated, that at present imported laborers and paupers could not be rendered productive, because the regulations and policy will not admit of it; but so soon as the legislators are taught that by not rendering them productive, they are injuring, to the utmost, the poorer class of the Mother Country, there can be little doubt that attention will be paid to so obvious a measure*. In the present case, when taking a sturdy labourer from his country, to place him where he can be usefully employed, we should not only be relieving the Mother Country from a heavy burthen; but so soon as the first outlay for transportation was defrayed, we should convert him into a proper consumer of her produce, and thereby enable her to support an enlarged population.

Under the present regulations, a settler holds his grant upon condition of paying, after seven years, 5 per cent. on a valuation of the land, to be made by commissioners appointed for that purpose, and I believe it is understood that this is to average five shillings per acre. He is to expend this value within five years, in permanent improvements; and in New South Wales he likewise engages, personally, to reside on the land for a term of three years. The quit rents are redeemable at the rate of ten years' purchase. Should the individual desire to purchase land, the portion he selects is valued by commissioners, who are restricted thus far, that no ground is to be estimated under 2*s.* 6*d.* per

* The expense to Government of bringing out a convict is £40, while a society has advertised to transport free laborers for £10 a head, or £20 for man and wife. Now we have seen, that the value of a convict can only be calculated on a single life, or little more. They come out in the ratio of 7 to 1 of the females, while even that small proportion of the latter are, in a great measure, disqualified from bearing children. Whereas the married laborer is a real breeding stock, and in the calculation of the expense of outlay for transportation, the average number of his progeny must be taken likewise into consideration.

acre*. After this, it is put up for sale, and it becomes the property of the person who bids the highest above the valuation, which constitutes the upset price. This last tenure is subject to no quit rent. As the worst land is valued at 2*s*. 6*d*. per acre, the highest qualities rise from 15 to 20 shillings in particular situations, but perhaps the average does not exceed 5 shillings.

On inquiring into the principles on which these valuations are formed, we should be disappointed were we to expect to meet with any philosophic or certain data, to direct the commissioners: on the contrary, they have not the most distant idea of such a basis; all depends on the vague and crude opinions of frequently unexperienced individuals, who have only the Government order for the value of the lowest quality to direct them, and who must therefore, consistently, place a higher estimate on the better description. The distribution and arrangement of soils would probably be treated with contempt by those despots, who would deem it to be totally unworthy of the Government to descend into such minutiæ.

The rents, or quit rents, required upon those valuations, are now daily falling due, and in consequence of the general prevailing distress, they are felt to be a severe burthen; indeed, I believe, they are now almost, in every instance, entirely withheld. Even had these been paid, however, they would have been found injurious to the country, since they would have tended to diminish the *price* of produce, without affecting its first cost, so long as there was no mode of transferring that into specie. One would imagine, that this might easily have been foreseen, and guarded against, by substituting, for a considerable period to come, a part of the produce in place of specie. In exacting monied rents, the Government have fallen into the same error, as did the Marquess Cornwallis, in his permanent settlement of Bengal; first, by changing a rent, which is constantly diminishing, in consequence of the regular depreciation of the precious metals, instead of having a constant quantity paid according to the valuation of the produce; and secondly, in compromising the just claims of a succeeding Government for a portion of its expenditure. The result of this is, therefore, that at the time when the strength of the cultivators is the weakest, the burthen is the greatest; and at a future period, when the energies of the country begin to develope themselves; when increased capital is required by the state, its legitimate resources are found to be forestalled or otherwise disposed of. I shall not, therefore, stop to investigate the grounds on which

* I suppose that this valuation has been taken from America, without, probably, estimating very particularly the different situations of the two countries; their vicinities to water carriage, a market for their produce, &c; however, this is perfectly immaterial, since the land is of no value, until it can give a rent for capital invested, which it neither does at present, nor is it likely to do so, while the present system of management is pursued.

Government give grants of land upon tenures, which insist on the expenditure of certain capital, or into the reasons which have led it, in this instance, to depart from the boasted system of Political Economy of the present day, by forcing capital into channels which are evidently unproductive. But I deem it indispensably necessary to inquire into the right claimed by the present Government to injure or compromise the future resources of the country. I am one who implicitly believes in the existence of right and wrong, totally independent of civil institutions; and I cannot conceive any ground why an individual, or a body of individuals, however supported by legal authority, and by all the power of the strongest, should take upon themselves to dispose of property which does not virtually belong to them. And if this should be admitted, with regard to rents generally, what shall we say to sales of land on tenures, by which they are freed from assessment for their quotas of the expenses of a future Government. The soil we stand on is not the gift of our fathers, neither is it ours, save during the period of our existence. It is not man's bounty, but nature's gift to man; to man who is, not to him who died yesterday. The produce of the soil drawn forth by labour, is the property of him who produced or purchased it, and he can bestow it on whom, or in what manner he pleases; but the soil is the property of the state conjointly; its existence is derived from it; and under whatever form of Government, its produce ought neither to be monopolized or otherwise alienated.

When the truth of this is admitted, or rather when it can no longer be denied, is it to be supposed that a future generation or Government, will sanction the acts of the existing one? Can it be supposed, that when the mercantile interests becomes equal in importance to the agricultural, that it will quietly permit itself to be thus defrauded? I conceive, therefore, that the power of the present Government to establish the share which a future Government may require of the produce of the soil, neither exists, nor will it be ultimately recognised. Also, that it has no right, permanently, to settle a rent; to receive a reduction of quit rents; or to dispose of land under promise that it shall be afterwards freed from the necessity of supplying its proper share of the expenses of the Government. But I certainly conceive, that a future Government has a decided right to alter or annul all attempts to substantiate this right; and prudence and necessity will compel the exercise of it, in declaring that such transfers have been issued without legitimate authority, which could only be derived from its own independent act.

The relative proportion of produce which may require to be paid to a succeeding Government, cannot be ascertained. It must depend on the developement of the resources of the country, and a

thousand causes which futurity can alone disclose. In the mean time the policy of the present Government is clearly to take small rents in produce for moderate periods, leaving the succeeding Government to make whatever alterations they may deem expedient for the future welfare of the country.

We must now, however, turn from the agricultural settler, to offer a few remarks on the mercantile colonist. On the first arrival of a traveller at Sydney, he remarks, with pleasure and astonishment, the rapid progress which the town has made since its first foundation, and judges from it of the opulence and thriving condition of its inhabitants. But let us accompany him in a more minute inspection, during which he may perhaps have reason to consider his first impressions as having been erroneously formed. In passing from street to street, we are first struck with the want of elegance in most of the buildings, or the absurd attempts at ornament in others, as if, in constructinng a new metropolis, it was required that we should go back for some centuries, in order to complete its resemblance to others of more ancient origin. We observe, at the same time, the better houses often concealed amongst temporary buildings, or wretched hovels, as if ashamed of being seen in such company. With the exception, therefore, of straight streets, in place of crooked lanes, there is nothing to evince its modern origin; while the whole composition affords one of the finest illustration of the principle of leaving every thing to itself, in order that it may find its own level. It constitutes indeed an epitome of the whole history of colonial policy; all has been the result of present expediency, nor has any Governor looked forward to a state of improvement beyond that of the period of his individual reign.

But suppose that the legislator had acted differently, and with a view to futurity, had taken example by the capitals now constructing, such as Edinburgh, Washington, &c. adapting these copies to his particular situation, and to the amount of the means at his command. It would first have been necessary to have recognised the principle I have already advanced, that Government has no right, for a present consideration, to give up the resources of a future Government. We have therefore, no right to alienate, in perpetuity, the ground on which the houses are built; that is, although the quit rents should have been small, and perhaps for a long time nominal, still they ought, at the same time, to have been renewable at the termination of certain fixed periods. Having settled the tenure, we should proceed to lay out a portion of the town, with a reference to an epoch beyond that of the present day. The course of the first streets having been planned, it would next have been necessary to calculate on the most advantageous situation for particular purposes; as for instance, wharfs, store-houses, shops, &c. and due space would, likewise, require to be retained

for public buildings. We should then divide our streets according to the purposes for which they were to be employed, or according to the wealth of the proprietors, &c. It is not necessary that the plans of the buildings should be superb, or that they even should be permanent; all that is requisite is regularity.

We should, at first, open only the number of classes of streets, that might be necessary for the present wants, nor should another of the same description be commenced on, until the previous one had been fairly completed. For this reason, the Government would take care to have the suburbs falling gradually into their hands, in proportion as the town required to be increased; instead of these constituting, as now, the fortunes of separate individuals, without exertion on their part, to the injury, and at the expense of the rest of the community. Having formed the external plans of houses of each street, it would be necessary to keep in mind, that the lowest and temporary ones are first to be removed, and such should be distinctly mentioned in their tenures, which ought to be of, perhaps, a similar description to those of the suburbs. In the higher sort of buildings, it would be by no means advisable to urge extravagant expenditure; on the contrary, the Government being aware that outlay on dead stock materially detracts from the resources of the country, it should rather inculcate economy, and more particularly on the first establishment of the new colony. In the plans of building, we ought only to aim at order and assortment, without forgetting, at the same time, that degree of elegance which may be purchased without extravagance.

While we thus avoided, therefore, the straggling character of a Washington, the regularity of the buildings would permit of an established circulation of air, while we completely prevented the crowding together of houses of all descriptions, along with the unhealthiness, filth, misery, and I may add depravity, invariably resulting from it. The value of a house would likewise become substantial. A man, on a farm, may build as he pleases, since none are affected by his operations; but in the town, the circumstances are different. In this case, the quality of the neighbourhood, the class of its inhabitants, and their description of building, enhances or deducts from the value of the house of an individual. The object is therefore, equally beneficial to all; still, however, it is only on the commencement of a city or village, that such can be properly carried into execution. In this respect, also, the towns of Sydney and Hobart Town afford a faithful picture of the remainder of their respective colonies. The evils that now betray themselves might, with a moderate degree of foresight, have been avoided at that period, when the first foundations were laid; while, whatever be the exertions afterwards made, to remedy the errors then com-

mitted, they can only be expected to be partially successful. The injury has been produced, and though energy and perseverance may, perhaps, alleviate the most glaring defects, the stamp that has once been impressed, will never be effectually eradicated.

But while considering the state of private buildings, we must not pass over the public ones, without bestowing on them, likewise, a few remarks. At Sydney, one cannot but be struck with the conviction, that the public edifices there, have far outstripped the wants and general progress of the colony, and, however they may serve to indicate the munificence of Great Britain, would rather lead the traveller to consider them as monuments to the Governor who caused them to be erected, and whose name*, largely emblazoned, craves for itself the gratitude of succeeding generations. One cannot but reflect, that those buildings were erected by the Mother Country, whose population were, at the time, laboring under severe difficulties, and whose ministry borrowed the funds for the purpose, assuming the power to pledge for security the honor of the present and future generation. These buildings ought to have exhibited examples of economy instead of prodigality to the population, more particularly when it is considered that the capital laid out was so much specie taken from England, while their erection, at the same time, deprived the colony of so many of her laborers, who ought to have been rather engaged in productive operations. Temporary public buildings, in a young settlement, should not be replaced by those of a permanent description, without the most urgent necessity, since the expense of labour, and of every article employed in their erection, must gradually decrease, inversely as production. The longer, therefore, they are delayed, the smaller outlay of capital will be consequently required.

Having examined, in a general manner, the state of the private and public buildings, one would naturally investigate into the sources from which the inhabitants derived their support. The population of Sydney is stated to amount to 20,000, but I rather imagine that it is somewhat over-rated, while Hobart Town, by the last census, contained 4,000 inhabitants. Now, there are amongst these, a proportion in each, belonging directly to the Government, while others are supported indirectly by means of the salaries of the former, disseminated through different hands. The public salaries at Sydney, do not amount to double that of Hobart Town; but we

* Governor Macquarie, whose name resounds from hill and dale. In town, it is met with in numberless varied forms, while mountains, crags and rivers; plains, harbours, and settlements, in both colonies, and during the period of his reign, have all been honored by being considered worthy to bear his illustrious designation.

shall assume that they do so, and that ¼th of the inhabitants of the latter place derive their complete support, directly or indirectly, from the Government. This would give for Sydney only 2,000; but we shall double this, and say that 4,000 receive their subsistence from the expenditure of the state, by which we shall still have 16,000 individuals, whose means of subsistence remains to be accounted for. There are no manufactures in either colony, to give food to 500 of those 16,000; nor does the town of Sydney contain, within itself, any sources of wealth. Consequently, with the exception of the whale fisheries, which are at present scarce worthy of a place in our calculation, the whole of this population derives its support from the trade with England. In other words, *one-half nearly of the population of New South Wales derive their support and wealth from the mere transfer of produce of the Mother Country, from the British vessel, to the cultivator of the soil.* Now when this is understood to amount to £500,000 in one year, the profits of the 10,000 must have amounted, to by no means a contemptible sum. This £500,000, is exactly £300,000* above the present resources of the colony, whose exports amount to 80,000, and the home Government expenditure to £120,000, while the deficiency consists in goods on credit, a small proportion of emigrants' capital, along with the losses of the speculators.

Is is tolerably evident, that if the remaining portion of this population (20,000), were to take the management of this transfer into their own hands, a manifest profit would result from it. They would, in the first place, reduce the imports from 5 to £200,000, with equal advantage to themselves, and to the British merchant. This amount would require but a very small establishment to transact the business of division or transfer, including the repairs of shipping, &c. while the remainder of the population would be driven into the country, or be obliged to become otherwise productive, in converting corn into money. The effects of competition in transfers within a limited market, is not, as is supposed, to diminish, but to enhance the price to a consumer. If a merchant has a market for £100 of goods, and stands alone, he can, we shall suppose, afford to sell at 10 per cent. profit, but from this he has to deduct his own expenditure, house rent, &c. When, however, there are two merchants for this amount, the expenditure is doubled; when four, it is quadrupled. Therefore, the price, so far from being reduced in the ratio of competition, is eventually increased by it.

By the sweeping policy of leaving every thing to take its own level, so much capital is thus directly taken from the British merchant, never afterwards to be restored; while the chief portion

* Public expense for 1829 : see Chapter 2d.

of the amount is either expended on dead-stock, or serves to maintain a large and unproductive population. Hence the appearance of Sydney, so far from establishing its claim to wealth, only evinces that the profits of the cultivator are far inferior to those of the merchant. The effect of this is to diminish production directly, while it enhances the price of wages; and we know, by experience, that whatever increases above a certain point the price of wages of the laborer, diminishes, proportionally, from the quantity of individual produce. When, however, wages begin to fall, in consequence of the drain of capital, property of all kinds must change hands at a great loss; and though the holders of mortgages or the purchasers may consider, that they have by this means gained an advantage, they ought to be aware, that while the same causes remain in operation, the decrease in value must continue to proceed as formerly, and in a similar proportion. Am I not, therefore, borne out in the conclusion, that had the Government of the country been vested in a body of British merchants as a monopoly, the evils resulting from a surplus importation, would, ere this, have been remarked, and a proper remedy would most probably have been suggested? Would not such a body have attempted to diminish the price of European articles, after their arrival in the colony, in order that the consumer might thereby have been enabled to exchange his own produce at the lowest price?

I have alluded to the whale trade, as being a productive source of wealth. It may amount, at present, in each colony, to £20,000 per annum, of oil exported into England. In Van Diemen's Land it is the black whale which is caught; whereas, in New South Wales, vessels are fitted out for New Zealand, for the sperm or spermacetti whales. The black species are found in bays, on the coast of Van Diemen's Land, and more particularly about Bass's Straits. Boats are, in consequence, only required for catching these, though small vessels are likewise frequently fitted out to accompany them. I endeavoured, though ineffectually, to impress on the Government, the risk of driving those animals from the coast, as has been done in other countries, by continued, instead of interrupted annual attacks upon them, by which a lucrative source of colonial wealth would be probably destroyed. I believe that this is now beginning to be felt by those who have been longest engaged in the trade; and although the annual produce is increasing, from greater numbers being engaged in the fisheries, they are by no means so plentiful at present, as they appear to have been during a former period. As far as I can learn, it is the reverse with regard to the spermacetti whales, which are found in such abundance, that the trade will only be controlled by the demand for the oil, which, I believe,

is beginning to be largely expended in lubricating machinery of the finer descriptions*.

CHAPTER IV.

Preliminary Remarks on Military Government.—Duty of a Governor.—Proposals for his trial.—Inquiry into the Effects of unproductive and productive undertakings, under Government management.—Executive and Legislative Councils.—Judicial Department, and its Independence.—Lawyers, the supporters of Liberty.—On the basis of Criminal and Civil Codes.—Proposed changes in the offices of Magistrates.—Surveyor General's Department; its duties, constitution, and line of Policy.—Government is the granter of land; measurement of it by Assistant Surveyors.—Proposals for a new arrangement in the department of the Botanic Garden.—Policy with regard to Education, and its present condition.

Before entering on the different details of the state, I must bestow a few observations on the military, since it is from this class, almost exclusively, that the Governors of the colonies have been hitherto chosen; and it is, therefore, necessary to inquire into the qualifications which render these, at present, the best suited for fulfilling such important duties. It cannot have escaped the observation of those who have been in the habits of intimately associating with the military, that there are but an extremely limited proportion of them, men of education. I may appeal to such as are qualified to judge, who have spent many of their leisure hours in the monotony of an Infantry mess room, whether the generality of the officers, composing such regiments, are not inferior in education, to the average of those with whom their rank entitles them to associate; and whether, in numberless instances, they would not have felt ashamed of their comrades, had they been deprived of the advantages, which in the eye of the multitude, are attached to a scarlet uniform. In this respect the Engineer and Artillery officers possess a decided superiority over the other branches; and though the education required of these, is confined, and I may add illiberal, still their rank is, by its

* Banking is carried to some extent in both colonies. These institutions discount generally at 10 per cent. interest, while money may be laid out on mortgage, at 20 per cent. and upwards. Thus, while the whole capital invested in the colony has only brought 1½ per cent. the settler is borrowing at from 20 to 25 per cent.

The most lucrative trade, however, in both colonies, and almost the only one in which riches have been accumulated, has been that of retailing spirits, *or grog shops; and it is from this source also, that the Government at present derives its principal colonial revenues!*

influence, established on a very different foundation from that of the Infantry; and the effects on their respective services are, consequently, conspicuous. The improvements which have taken place in the Engineer and Artillery departments, have far out-stripped those of the Infantry, which has been nearly stationary. The period, indeed, has not long elapsed, since the British Army contained but few general officers, who were acquainted with military tactics on an extended scale; and I doubt, whether the information of the generality, under field officers even at the present day, is not limited to a brigade exercise.

One might imagine that it would have, ere this, occurred to those who have ruled the army, that it was possible to increase its powers, and its reputation, by insisting on all the officers passing through a certain routine of education; and on exhibiting proofs of proficiency, on subjects connected with their profession, before they were permitted to receive their respective commissions. To the army, generally, this would have proved advantageous; their trappings would no longer have been considered as gaudy decorations, enveloping, indiscriminately, the gentleman, the wealthy, and the clown: but as proofs of a superiority earned by application and industry. It is evident, that by improving the talents of a great proportion of the officers, we should materially affect the relative quality of the whole body; it would be like giving additional temper to an inferior sword. Neither would its effects be confined to those who were previously deficient; for experience has taught, that the education of a greater portion of a class of men to a state of improvement, equal to that previously obtained by a few, tends to impel the smaller number forward, who start again from the point at which they were equalled by the majority. In a word, the whole mass would thus receive an impulse; and while a higher description of commanding officers were elicited, the improvements in the *materiel* would no longer be confined to those of the Artillery and Engineer, but be extended to other departments of the Infantry, besides that of the tailor.

At present, in selecting an officer for the situation of governor, no one can be aware of his capability for the situation. He may have behaved with judgment in battle, but his deeds there are no recommendation for him in his civil capacity; and it is the heighth of injustice to reward military service, however praiseworthy, by sacrificing for that purpose the interests of a distant population. If these men are, therefore, to be henceforth selected from the military department, I conceive it would be advisable, in order that they may, in the first place, profit by the ample opportunities which their profession affords them, of increasing their stock of information, and subsequently, of fulfil-

ing whatever duties they may be called on to perform, that they should all indiscriminately receive a liberal education.

In examining the state of a colony, one quickly perceives that it is divided into two parties; the governing and the governed; both of which are perfectly distinct, and possess few or no interests in common with one another. The governing party, we shall suppose, consists of 10 men, who are found sufficient to superintend 100 of the other class. This is accomplished by means of a discipline, similar to that of the military. The object is considerable, and the attainment difficult; but through general arrangement, and regular subordination, the strength of the smaller party becomes more than a counterpoise to that of the larger. Were it not for this combination, the strength of the 10 would be reduced to an equality with the same number of the 100. According, therefore, to the strength of connection in the arrangement of the lesser body, the fewer will be the number required of the governors, and the smaller will, likewise, be the expense necessary to be levied on the governed.

But it appears to me, that the principle leads much further; and that, whenever we require to produce, to the greatest extent, a given object, it must be effected by the same union, and the same continued chain of connection; in other words, if it is required to increase to the utmost the resources and wealth of a country, each individual must act upon a given plan, instead of every one's pursuing his object according to the dictates of his own imagination. In opposition, however, to this principle, we find each individual of the 100 perfectly insulated, and without possessing any common interests; every one following his own inclination: while the greater the division, the greater is the extent of power that can be exerted over them by the governing party. So far, indeed, from their having any general interest, save as respects their personal liberties, that a calamity, occurring to a portion of the 100, generally becomes a source of advantage to the remainder. There is, in short, a wide gap between these two parties, which requires to be filled up. Now all those who have hitherto devoted their attention to the investigation of the proper principles of a government, have generally restricted themselves to the changes on the constitution of the governing party, as to the extent of their powers and modes of election, &c. but no one has attempted to improve the basis on which the government itself is founded; yet the history of nations has shown, that the government of countries receive their characters solely from the constitution of this basis, and that any changes effected in the system of government invariably produce only a secondary influence.

It cannot also have escaped the observation of those who have been much amongst the military, that the chain of connection above

elucidated has a peculiar disposition to increase honorable feelings in the higher ranks, and to decrease selfishness in the whole body; whereas, in proportion as the interests of those composing the 100 are separated, the very reverse of such effects are produced. In the military, the result is derived from the sacrifice which each has to make of his selfish interests, in order to add to his own individual happiness; nor do I conceive that this, in the slightest degree, originates in the honorable nature of the profession, which has, on the contrary, a direct tendency to harden the heart, and to obliterate the better feelings of our nature. But the above effect is likewise observed under other circumstances, and can be even traced amongst the less favoured hordes of banditti; indeed, although prejudice and the influence of power, has scattered some tinselled halos around the military profession, what is the general nature of their pursuits, save those of a more powerful and better organized description of a similar class?

The duties attached to the office of chief ruler, has continued to vary with the progress of civilization of mankind. In the more barbarous times, it consisted in the administration of justice between individuals, and in the celebration of religious rights. These duties have subsequently been assigned to separate and inferior departments; since which period the chief object seems to have consisted in adding to the glory of the country, and diminishing, at the same time, from its population, by the plunder of neighbouring nations, or by otherwise revenging real or supposed injuries. But according to the appearance of the times, these ideas are about to undergo a change, and the duty of a Governor would seem now to consist, in levying the amount of expenditure required for the support of the governing party, and in directing its application; also in superintending the engine of the state, and in altering and amending the laws and regulations.

In levying the amount of expenditure required for the support of the Government, and in directing its application, the demand on the 100 of the governed, is generally calculated on the sum which these can afford to pay. To economise such resources, is merely to effect, in a negative degree, the improvement of the resources of the state; and it is plain, that however necessary this must at all times be, the utmost advantage derived from contracted expenditure can quickly be attained; after which, still further diminished expenditure would tend also to diminish the wealth of the country. Whereas the improving the wealth and resources of a country, is confined within no limits, and the advantages resulting are consequently incalculable.

In superintending the engine of the state, one generally observes, and more particularly so in those colonies, the utmost repugnance to part with even the shadow of power. Under the plea of want of principle in the subordinates, the Governor's office is made into

a check for the different departments, and minute business cannot be transacted without its express sanction. The office becomes, in consequence, choaked with useless details, belonging properly to the inferior departments. The checks intended become minute, the expense enormous, and their effects only nominal; while relieving the lower departments from the proper responsibility, tends to delay the public business, and otherwise embarrasses the proceedings of the departments. In the mean time, the Governor's attention is occupied with useless details, and he is left without time for those duties which ought, chiefly to occupy his attention. Surely that engine must be faulty which requires the engineer's undivided attention, merely to preserve a degree of equilibrium throughout its different divisions.

On the other hand, the duty of altering or amending laws, would appear to have been, in most instances, over-done, without, at the same time, effecting the objects proposed, of increasing the wealth and prosperity of the population. A regulation enjoins a real sacrifice for a benefit *in prospecu;* the sacrifice is certain, but the benefit to be derived, is by no means so; and frequently, even the attainment of the advantage, tends, in some other way, to diminish, instead of increasing, the general prosperity. This arises from the disunited state of the governed party; and it is obvious, that the advantages arising from legislation, with regard to these, must be confined within very narrow limits, so long as they remain a separate and disjoined body, possessing few or no common interests. A governor of a colony, however desirous he may be to do his duty, in issuing a regulation, ought ever to be aware, that in order to obtain a benefit for the population, he must, at the same time, in the present state of things, do an injury; and the injury and the benefit will constantly approach nearer to an equality, in proportion to the extent of the empire, and the increase of separate interests. Hence, therefore, has originated the prevailing opinion, that every thing, save *power*, should be allowed to assume its own level.

The remedy for this evil is indeed difficult in a colony or country which has attained to a certain degree of advancement; but at its first origin, it would seem to be easy, while the attempts, to produce general coalition, are rendered almost indispensable on account of the obstacles required to be surmounted. Although the difficulty is however great, in an established colony, where mutual repulsion and jealousy so generally prevail, I still conceive that an approach to it may be affected; and I likewise conceive it to be one of the first duties of a governor, constantly to endeavour to accomplish the object in view, by gradual, but determined measures.

I know not any thing that would tend, in a greater degree, to improve those colonies, than that the Governor should be obliged

to report on the effects of his own administration. Suppose that for this purpose, each Governor should be necessarily tried by his peers, on the conclusion of his respective authority. The inquiry should be confined to subjects involving the public interests, and the proceedings would be published for general information, constituting a continued history of the colony, for the benefit of posterity. The facts required to be proved would be but few; namely, that in consequence of his, the Governor's exertions, the colony had advanced in happiness and prosperity. That the total wealth had accumulated in a greater ratio than the population. That the existing exports had increased by regular annual increments. That other sources of income had been commenced during his administration, and were about to succeed those exports, whose present supplies were becoming equivalent to the demand. Lastly, that the instruction of the rising generation had been properly attended to. Were such to constitute the test of the abilities and conduct of a Governor, one would conclude that the individual who should be found wanting in the necessary proofs; who had restricted his exertions to retaining things in the state he found them, and who had permitted the talent committed to his charge, to remain without improvement, would consequently earn the disapprobation of those who selected him for such a situation, and that his name ought deservedly to be handed down, with infamy, to the execration of a future generation.

I have already mentioned, that the only operations of the Government, which can be considered to be for the direct improvement of those colonies, are all, with scarce an exception, unproductive; such as roads, buildings, and the like. Now, were an individual to come to an estate, the expenses of which surpassed the income, one would naturally expect, that instead of bestowing the borrowed capital in ornamenting the property, he would expend the funds, so as to increase its productive power, provided he could not bring the expense within the income; and I should imagine, that the same policy would be found equally applicable to a colony. It might, indeed, be objected by the present administration, that by such means the Government would be placed in competition with the settler; that farms having in one instance, been attempted, had failed, &c. An investigation will, however, prove that, with regard to these, it was utterly impossible they could have succeeded, on account of the mode by which they were attempted; and certainly it must be allowed they did come improperly into competition with the settler, by increasing, uselessly, the supply; without, at the same time, adding to the consumption. I deny, however, that under a proper administration, there is any necessity for raising surplus produce, or for entering into competition with the settler, so soon as a commencement has been made, in con-

verting the produce of the soil into an exportable commodity. There is, however, at present, an annual deficiency in the revenue, of £200,000; a sum which the settler cannot afford to pay; and it is therefore, the duty of the Government, either to confine the expenditure within the income, or to increase the resources, in order to meet the deficiency. I should, accordingly, conceive, that Government had no right to undertake any work under these circumstances, save such as were calculated to produce a direct profit; and I likewise conceive, had this been the policy recommended by the Home Government, that these colonies would long ere this have ceased to have been burthensome to the Mother Country.

On those unproductive undertakings, Government have incurred a very considerable expense. I shall quote two instances of road-making, as being the only mode by which I can explain their general effects. In all new countries, the first of these are made by the settler. Those trees which would intercept a carriage, are cut down, and the few places, which absolutely require it, are rendered more easy of ascent. The succeeding ones are constructed by the Government, on principles similar to those in civilized countries, and the work is completed, generally, at an enormous expense. In nearly the same ratio, however, that those facilitate intercourse, they likewise tend to scatter the population; and according as the population is separated from one another, the cost of produce is proportionably enhanced.

A very good road is now forming between Sydney and Bathurst, a distance of 140 miles, which, in consequence of the continued alteration in the direction, has cost, for a number of years, several times the amount it ought to have done, independent of the natural difficulties of the mountain passes, and the general expensive mode of carrying on all Government operations. Now, if the sum total expended on these, only produced a rent sufficient to repay the borrower, the work is evidently unproductive, since it affords no advantage; but this work produces not even interest, and the amount is, consequently sunk or given away. This is true so far as regards the Government individually; let us, therefore, next inquire how the expenditure affects the settler.

We shall suppose, that the first description of road, constructed at but little comparative expense, was in existence at the same time with the present Government one; and that a toll was placed upon the latter for those that chose to pass by it, in preference to the other; now, if we, likewise, suppose, that the toll was to be calculated on the average amount of tonnage, and that this must necessarily pay the interest only, not to mention a profit on the undertaking, can it be supposed that any settler would prefer the Government road to the old one? The whole delay occasioned by the first road, we shall say, might be estimated at two or three days of

additional journey, which difference would by no means defray the expense of interest. The real expense of this road cannot, I am convinced, be now ascertained; but I do not conceive that at present the prime cost of the whole tonnage of the Bathurst district, would even defray the interest of the amount; neither do I conceive it will ever do so; since so soon as the Bathurst exports have attained to the required value, in order to pay the interest, the facilities of water carriage will have been found out through the Lachlan and Murrinbibijji rivers, toward Spencer's Gulph. The expenditure, therefore, of the Government is not a boon bestowed on the settler; it is a dead loss to both. True, it may be said, that this is intended for the succeeding generation; but has Government a right to borrow money for that purpose? Ought it not, before such a display of generosity, to take care that its expenditure is within its income? Again, are such acts for the benefit of the succeeding generation? I confess I have strong doubts upon this subject, conceiving that the best, and perhaps the only mode of benefitting posterity, is by laying out a portion of our wealth in productive sources. Local improvements in roads ought to be defrayed not by the whole community, but by those who derive advantage from them; nor ought the expenses to be incurred until the benefits, calculated to result from the measure, are such, as to give an immediate profit on the outlay.

The second instance I shall give, is a mountain road between Paramatta and Maitland, of, I believe, 104 miles extent. This will speedily be completed, and certainly does credit to the engineer, both in the selection of the direction, and in the construction of the slope from the top to the bottom of each declivity, which has been rendered equal throughout. It is a work, indeed, worthy of a populous and civilized country; but in New South Wales, while the expense required to accomplish it has been enormous, it appears to be a useless waste of labor and money. Maitland is situated on the Hunter River, and possesses the advantage of direct water carriage to Sydney. The country through which the road is constructed, is barren in the extreme; and no produce will ever be transported by the land route, which is, therefore, only calculated for passengers. There was previously a mountain track for these; and now, if a duty were laid on them, the interest on the amount expended on the road, would not, I am convinced, by pure contributions, be defrayed for, at least, a century to come: indeed, in passing throughout its extent, I could not help considering it, as only a beautiful specimen to be preserved for future years, of the extravagance and ignorance of the present generation of rulers*.

* The public roads in the interior of Van Diemen's Land, are generally extremely bad, without any saving in the expenditure which would have

When an individual commences a new species of crop, or a new manufacture, he is put to greater expense than would subsequently be required, after the same had been once properly introduced. Neither does he, in most cases, derive the benefit from it; it is his offspring, and the neighbourhood or country which reap the great proportion of advantage resulting from his experience and his losses. But if the country is chiefly benefitted by the introduction of a new source of wealth, the Government must likewise receive their share, since it derives its resources from the amount which the country can afford to pay. It is, therefore, the duty of those who receive the benefit, to defray the expense of such undertakings, which ought, consequently, to fall proportionably on the Government and on the party governed. Now I have endeavoured to shew that the governed are, a divided powerless mass in those colonies, and incompetent to unite for the purpose of executing, to advantage, a new undertaking. On the contrary, the Government conceives its duty to be restricted to expenditure, so that new improvements devolve solely upon speculators. But speculators are self-interested, and must necessarily be short-sighted. Their object is directed to rapid returns from whatever source, because the short periods of their existence indispensably requires it. This again demands an immediate and large outlay of capital, generally without a proper examination of what is to be the result, because the circumstances of the individual are incompatible with its attainment. This is equally the case, whether there is but one individual concerned, or any number of individuals.

Government is, however, very differently situated, while at the same time it is in possession of capital (laborers,) who are required to be employed in the most profitable occupations; neither, is it likely to be led away by the expectation of immoderate profits, inducing it to commence on any but the smallest possible beginnings; because it will naturally look forward to a longer interval for the completion of its expectation. Possessing both the means and the power, it is also likely to be more successful than an individual, while its operations can be carried on at less expense. It would be less under the influence of the passions then the speculator; and would inquire, thoroughly, into the premises before commencement of an undertaking; while it still retained the power of rewarding the speculator in proportion to the success of those schemes, which we shall suppose the latter has proposed. In selection of the plans, which it is to put in practice, it would be

been necessary to render them of the ordinary quality. The want of the engineer is likewise severely felt, both with regard to the line of direction, and in the management of the slope, where a mountain requires to be ascended.

guided by other motives than those of a speculator working on his own account; since the former would have reference solely to the advantage resulting to the country from the successful introduction of a new or improved source of wealth. Its exertions would be directed, in order to set an example; when the new crop has become common, or the new staple or manufacture has been properly introduced, the object would be attained; and it would then be time to think of withdrawing the capital, for the purpose of being laid out in other productive sources. Monopoly, which benefits a speculator, would be injurious to its interests; neither would it require to have any secrets; for the more extended the information, the more rapidly should its plans be accomplished. In a word, the objects of Government would not be selfish, since the advantages it would calculate on, must solely be derived from the effects produced on the general prosperity. It would thus assume its proper situation as the head of a population, in leading the way, instead of requiring to be driven onwards to improvement. True, this, at present, constitutes no portion of the duties of the present Governor; and I anticipate the sneers of those who would deem his office as degraded by such unmilitary pursuits. Still, however, according to my own conviction, this constitutes, in conjunction with the improvement of the rising generation, the noblest portion of the duties of a ruler; while his powers of conferring benefit are not here restricted within the same narrow limits as those attached to his other duties; but are constantly progressive, and are only confined by bounds, within which it may have pleased the divinity to restrain the future progress of mankind.

In looking round to observe whether any works of this kind have already been attempted, I have only met with one solitary example. True, endeavours, which have proved successful, have been made to improve the breed of stock; but these, on inquiry, will be found to have belonged to the unproductive description. The example alluded to, was made during the administration of Sir T. Brisbane, who instituted a Government farm at Emu plains, for the culture and preparation of tobacco. This, under all the disadvantages of confined plans, more than repaid its expenses; and through its means, the manufacture of negro head tobacco has been introduced into the colony: indeed, it would have proved, in this respect, completely successful, had it not been done away with during the succeeding administration, before the full advantage had been derived from its institution. I have also alluded to a manufacture of cloth at Paramatta; which, however, can only be considered in the light of an employment to those who are undergoing punishment; since in a country where labor of all kinds con-

tinues to be of the highest value, *the thread required for weaving it was, in the year* 1830, *all spun by the hand.*

I must now, however, conclude this part of my subject, with one additional remark, that during the early period of the colony, had the Government directed its attention to productive undertakings, upon principles similar to those stated in the 2d and 3d Chapters, and had they even confined those to the culture of the vine, for which the soil and climate of New South Wales is peculiarly adapted, the value of their exports, ere this, would at least, I conceive, have equalled that portion of the expenditure, which is now surplus to the revenue.

A change has lately been affected in the administration of those colonies; an executive and a legislative assembly having been appointed to aid, or check, the authority of the Governor. The executive council is composed of persons holding the highest Government situations; but as far as I am acquained, its powers are merely nominal; indeed, it is, perhaps, better that it should be so; since placing the control of the acts of a Governor in the hands of those who do not share in his responsibility, is at all times a dangerous policy. The legislative assembly is likewise appointed by the ministry, and is composed chiefly of persons holding official situations, and these principally residing in the Government towns. This is a new department, and I conceive, as far as I had opportunities of judging, that its members have been as judiciously selected as present circumstances would admit. Possessing, therefore, an assembly, whose exclusive powers are legislation, and at a period, when the rage appears to be in favor of its being carried to the utmost extent, I do not think the colonies have any cause to dread their being long in want of an ample code of regulations*; while the lawyers, likewise, will take care that these

* I happened to be in Van Diemen's Land, when this assembly commenced its proceedings, and I cannot properly avoid mentioning one of the regulations which it then issued. At this period a desultory war of extermination was carrying on between the settlers in the interior, and the aborigines. The latter, however, had the advantage; and according to the public reports, they were plundering a hut, and killing a European almost every day; each individual, who quitted his hut but for a few yards, required both to be armed and to be accompanied by a dog. The musquets constituted but a poor protection without one of these useful animals; indeed, it was only when assured of their guardianship, that the settler or stockman at the out stations, could lay their heads on their pillow; secure of warning of the insidious approach of their persevering enemies. Notwithstanding this state of things, and under the plea that dogs were injurious to the sheep, the legislative assembly *directed, that a heavy duty should be laid upon them, with the usual penalty, in case of non-conformity to the regulation.* It now constitutes a portion of the history of Van Diemen's Land, that the above warfare has been carried on for four years, without almost the appearance of an attempt, on the part of Government, to check the effusion of blood. That Government have looked on with apparent apathy, while the lives of those peculiarly committed to its protection, have been sacrified to an amount almost equal, per-

shall not be deficient in technicalities of legal jargon, in order to serve as a store of food, for their own powerful fraternity.

The judicial branch of the Government, which carries the present laws and the new enactment into effect, is of a peculiar description. The heads of its department are rendered independent of the local Government, creating by this means, two distinct descriptions of Government, a legislative and a judicial; not only, however, is the latter independent, but a legislative measure cannot be carried into execution without its sanction; the judges having the power of placing a veto on any regulation, regarding which they can state their reasons for considering it as at variance with that something denominated the British Constitution; and this, I should conceive, they could do without difficulty in every instance. Experience has shown, that it is at all times dangerous to create a power in a Government independent of the chief power of the state; and this is particularly observable in the instance now under consideration. The evil effects of it may be easily traced: when injustice is supposed to be committed by the higher power, the individual generally seeks protection from the judicial department, whose popularity is improved in proportion to the diminution of that of the other. This is greatly increased by the inferiors in the latter department, who, in order to enlarge their own power and emoluments, urge on their superiors to opposition to the Government, or, shielded by their protection, they find their advantage in waging a petty warfare, on their prevate account, since a state of quiescence is ever unfavorable to their interests.

I am convinced that no one measure has tended, in a greater degree, to spread disunion in the colony of New South Wales, than the independent power of the bench. While the judges have lost no opportunity of openly censuring the acts of the Government, the subaltern authorities have continued to ring the changes on the words liberty and equality, in the ears of those, whose passions and situations have rendered them most willing listeners. In this warfare, those who attack possess a desided superiority over those who defend; and the same species of declamation, used to mis-

haps, to the whole present population of the aborigines. At length, impelled by the general feeling, it has come forward in the struggle, and success must eventually attend its measures, because its character is staked for their execution. But will not this very success tend to prove, that what could have been done now, could likewise have been done four years go? nay, it will do more; it will prove that there would have been less difficulty, had the evil been taken at its commencement, and that there would have been also less effusion of blood in the execution of its purposes, without taking into consideration the waste of human life, which has been expended during the interval, and which calls aloud for justice, not on the aborigines, but on the rulers who permitted it.

lead an ignorant jury, is equally successful in exciting the feelings of the majority of a more ignorant community. I should conceive, that a judge of a colony ought to evince the same respect for the Government as he would be expected to entertain for his sovereign. The judicial is a branch of the executive, and although separated from it, there must still exist a strong connecting link. The two cannot be torn from each other's support, without mutual injury. The Government ought to be able, when it requires it, to claim the aid not only of the judges, but likewise of the whole department; and it ought to exercise a strong power throughout the whole of its internal economy. Should the Government act wrong, it ought not to be judged by a portion of itself, but by some authority superior to both; which authority can only be at present safely lodged in the Mother Country.

There is something surprising in the power which the department of the law has acquired over the property and liberty of the community, and which will most probably continue to increase, until the whole fabric falls from its own extreme weight. There would appear to have been hitherto a natural tendency in man to seek for power over his fellow beings; and its successful acquirement in departments of the state, has ever been in proportion to the degree of civilization which the particular country may have acquired. The law and the church have equally pressed forward in this favorite pursuit; and though the latter has had generally the advantage of her more slow-moving companion, the progress of the former in enslaving the minds, and in diminishing the wealth of the inhabitants of the more civilized countries, has been steadily advancing. It seems to have rested its chief foundation on the perversion of the science of logic, which has, by this means, lent its aid equally to the support of truth and error. The paths to true inquiry have been rendered rugged, difficult, and often impassable; because those obstacles have formed the support of this body, which has hitherto been left in England to its own Government, rather than to that of the nation. It is indeed strange to observe the lawyers presenting themselves as the advocates of liberty, who, at the same time, guard the road to this *shadow* of justice; the gates of whose temple, which should be free to all, can only be unlocked at ruinous expense; and whose penetralia can only be entered after surmounting delays, quibbles, and uncertainties, sufficient to detract from the acquirement of right, when obtained, often the whole, and always the greater portion of its value. One would rather indeed anticipate that they ought to dread the progress of liberty, whose effects must inevitably be to sweep along with its first tide, the whole, or the greater portion of those trammels, by which they themselves have been enabled to fetter the purer principles of justice.

At present the criminal and civil law, not only of England, but of all European countries, has no other basis to rest upon, but the power of the strongest. Even the division of criminal and civil is imperfect. Crime is not what the powerful choose to class under that appellation; if it exists at all, it is specific; and the mere commission of an act, by an individual infringement of a power, which perhaps, rests itself on no legitimate basis; or the performance of an act which, in law, may be denominated infamous, cannot necessarily constitute a criminal. Neither is the punishment, whatever the law chooses to make it. *If a man commits a real crime, whether against the power, or against an individual whom it governs, the offender is indeed due, in some sacrifice; but that sacrifice is not what the power may choose to exact; there is but a certain intrinsic quantity due, and where more is exacted, no matter by what authority, a legal injury is thereby committed.*

Our present civil code is founded on that of Rome. It was established when the light of reason was beginning to glimmer through the mazes of eastern superstition; and it has since been improved by the addition of rights wrung by the blood of our ancestors, from the grasp of their rulers. The basis of civil law in all European countries has, therefore, been derived from a semi-barbarous people, whose institutions we have been taught to respect with superstitious admiration. The superstructure has been, indeed, altered by custom, or rendered less tyrannical by compulsion; but has man no vested rights save those of custom, expediency, and the power of the strongest? or will he in future times, be content to receive that as a boon from his ancestors which they had neither a right to give or to take away? True, the period has not yet arrived for investigations of this kind, although there is a feeling abroad which would indicate, that it is not far distant. A Brougham may attempt to redecorate the external surface of a falling building, whose imperfections are now concealed amidst the rubbish of ages, and whose mysterious arcana require a longer period of existence than that allotted to man, to explore their dreary labyrinths. But let him beware; there is danger in the attempt; for should the long excluded light but for a moment flash on its rotten foundation, the whole will at once crumble to pieces, so that even its better fragments will be deemed unworthy of aiding in the formation of an improved edifice.

Important, however, as is the present inquiry, it is still of too extended a nature to admit of investigation within the narrow limits of the present chapter; I shall, accordingly, close my observations on legal administration, by proposing a few alterations in the duties of a magistrate. The subject has been already introduced, and it will, therefore, I conceive, be unnecessary further to explain the reasons on which I have thought it adviseable to recom-

mend these amendments; particularly, since I am aware, should my previous plans be deemed worthy of being carried into execution, that much more important improvements will, in such a case, be rendered indispensable. For the present then, I conceive, that the magistrates should be elected for periods of seven years, and that the respectable portion of the population should possess some voice in their nomination. Their powers do not require to be increased; but in higher cases, whether civil or criminal, they should be allowed the assistance of a jury*, selected from the district. This court should be supplied with law books of reference, instead of lawyers. The Supreme Court might still be the judges, in cases of higher moment; such as when the life of the individual was at stake, or where large property was the subject of discussion. It likewise might continue its jurisdiction in case of appeals; but I am convinced, that curtailing, generally, the limits of its authority would tend greatly to the prosperity of both colonies.

The next branch of the Government which would appear, from its rank, to claim our attention, is that of the Survey Department. As it is almost solely through this office that the settler transacts his chief business with the Government, its organization, with regard to the agriculturist, is of the first importance; and his future prosperity may depend, in a great degree, on the proper execution of its functions. The office consists of Assistant Surveyors, and a Surveyor General. The first are employed in the survey of the country, and on the measurement of settled grants; whereas the Surveyor General's situation is not what his name would import, he being rather a Territorial Secretary, and the channel of correspondence with the Governor on all matters connected with land, or land revenue. His office, likewise, constitutes a registry for settled grants, and for documents of the assistant surveyors, over whom he presides, as a secondary portion of his duty.

The assistant surveyors are generally young men, with scanty education, sent out to the colonies by the ministers; and as there are little or no inducements held out to them, from promotion or otherwise, it is not to be expected that they should be very zealous in the performance of their respective functions. Few or any of them, have been accustomed to the use of a surveying instrument previous to their arrival; nor would such information, under present circumstances, be of service to them, since they are only intrusted with a chain and table compass, with which they are expected to complete their geo-

* The jury of officers, who are impannelled in those colonies, for criminal cases, is a great improvement on the petty juries of England; since a much more intelligent set of men are thus obtained for the settlement of important, and often intricate, investigations.

graphical surveys. The inaccuracies of these are, therefore, frequently ridiculous; still this is but of secondary consequence, could the other information, collected by them, be rendered productive of public advantage.

The Surveyor General's Department, as a whole, would appear to be a local agency, constituted in order to assist the Government in the disposal of land belonging to his Britannic Majesty: true, it ostentatiously proposes to give information to the public; but let a settler apply to it, and afterwards estimate the advantage which he may have received. He will, at the Survey office, have elegantly painted maps placed before him, where he may observe boundary lines, settled, or supposed to be so. He may perceive mountains arising, where the space would otherwise have appeared unoccupied; and, perhaps, he may be able to trace the windings of many a stream, whose course has only followed the imagination of the surveyor. He may, indeed, be able to estimate, with tolerable correctness, the extent of land hitherto unallotted; but surely this constitutes but a minute portion of the information required by the settler: the public auctioneer could not have given him less. The settler, I have already mentioned, has, since the commencement of the colony, been treated by the Government as an interloper in a penal settlement, and his interests have only been attended to according as they affected the interests of those under its particular charge. The Surveyor General's is a Government office, not a public one; and its duties are confined to what concerns its own peculiar interests. Under whatever language it may have been couched, the policy, up to the present day, remains the same; what has Government to do with affording information to the settler? Is it not sufficient that it confers on him, as a boon, the permission of occupying waste land, and of laying out his substance and his labor on what would otherwise be unproductive? Should delay take place, to the injury, perhaps the ruin, of the new comer, how can the Government help it? Is it to be put out of its proper routine, because a needy adventurer's interests are concerned? When the more important duties of the state will admit, the Governor will then bestow his attention on the settler's concerns.

The Governor, through the Surveyor General, exercises the kingly office of granting specific portions of land. Now the Governor receives his information, with regard to these, from the Surveyor General, who is a resident in the Government town; and he, again, from the assistant surveyors,; so that the Governor can only estimate the number of square miles to be given away, without reference to their situation, or their quality. But assuming, that all our previous reasoning had been unfounded, that the power to alienate the land constituted the right to do so, and that the line

of policy was in favor of the measure; would it not still be advisable, that the Governor should be previously acquainted with the nature of those boons which he thus blindly and indiscriminately disposes of? Should not the advantages of situation, present, or future, be ascertained? And should not the grants be proportioned in extent to the quality, as well as the value of such advantages? Also, supposing that the regulations regarding the expenditure of capital were founded on a true line of policy, the Governor has still no present mode of ascertaining the value of the improvements made on the grant; and, perhaps, it is as well, for he possesses no power of enforcing the regulations, while the attempt to do so, might interfere very materially with his patronage.

I have mentioned that the duty of assistant surveyors was double; namely, geographical survey, and settling the limits of grants or purchases: indeed, the latter cannot be done without them, their report constituting a sort of right or title to the property. A settler, therefore, is desirous of knowing the boundary of his farm; he may wish to run a fence around the skirts of it, to protect his crop, and detain his cattle; or his neighbour and he may have a dispute or lawsuit. He accordingly applies to Government for a surveyor; but the policy remains still the same, under whatever language it may be expressed. The surveyor is engaged on geographical survey, which is to be first attended to; when he can be spared, the wishes of the settler will be complied with. The surveyor's business is as a Government servant, not that of a settler; the latter may, therefore, have to wait three, four, or more years, unable to make the necessary improvements on his property, until it shall be convenient for the rulers to attend, in good time, to his request.

The Government complain that they have too few surveyors; but let them even triple or quadruple the number, and the evil will still remain the same. The Surveyor General possesses little controul over them; while the Government has no advantages to hold out in order to urge them either to improvement or exertion. Their private interest is to do as little as possible; and it is a remark made by the older settlers, that the work accomplished by the surveyors, has always been decreased inversely as additions have been made to their numbers.

But let us assume that a line of policy, similar to what I have hitherto attempted to advocate, should be extended to this department, which now constitutes a very considerable item in the expenses of the Government, without any adequate corresponding advantages. I should, in this case, be led to recommend a nearly similar course to that proposed for settlers. The patronage to the appointments of assistant surveyors, should be distributed amongst the universities; the candidates being required to attain a superior rank in those classes wherein the information taught

particularly regarded their future functions; and they should be likewise practically instructed in the use of those instruments which they may be called on to employ during the course of their future surveys. One of these persons, I should estimate, would easily accomplish the average work, which requires now four of the present members of the department to effect. They should advance to the highest rank of Surveyor General, through the joint operation of length of service, and meritorious conduct; in other words, though length of service should be indispensible to their rise in the different grades, deserving conduct would also be requisite to enable them to derive the full advantage from these. The Surveyor Generals, in particular, should be chosen from the highest class, indiscriminately, on the individuals being recommended by the legislative council to the Home Government, for the vacant appointment.

Let us suppose, that a new district is, therefore, about to be settled; and that an individual, high in the department, is first sent to establish its limits. He would survey, by means of large triangles, permanently marking, by the most effectual means, the angles of each triangle, and perhaps also the division of its sides. While in this employment, he would require to take an enlarged and comprehensive view of the country, collecting every information which he may deem important for the future settler; such as the quantity and situation of the land fit for cultivation; the quality and depth of soil; the species, number, and quality of the trees and grasses, &c. &c. This report, along with the map, should form the first documents in the public office of the new district. We have now, we shall suppose, six or seven respectable settlers, and a paid magistrate, in whom the Government reposes confidence, and gives them the charge of the disposal of the future settlements, upon just and equitable regulations. Counterparts of all the maps would be kept in the registry offices of the Government town; and appeals might be heard by a Council, from the decisions of this district committee.

A younger surveyor is now sent to fill up, as may be requisite, the large triangles, for the completion of the outline map. His chief business, however, would still be to obtain that information which the settler required; and to delineate and describe the nature of the country, along with its capabilities and advantages. I conceive it would be a great improvement to describe the country in relieve maps, made of some composition, on a sufficiently large scale, to shew the mountains in their proper proportion. Should this have its counterpart, with names in the common mode, while the other was painted, to shew the nature of the country, an individual could obtain, by this means, a far better idea of it, than from the most minutely executed paper map, or from the details of the

most elaborate report. Lastly, these would likewise form documents in both the district and registry offices. When the surveyor has finished his duty, and taken his departure, new settlers will arrive, applying to the local committee, who, in addition to these public documents, are now become personally acquainted with the country.

When the space to be occupied by the settler has been selected, persons, no matter whom, provided they are duly authorized by the committee, would be sent to establish its situation and its limits. They must now measure with reference to the triangles already settled, as it would lead to confusion, were any errors that may have been made in the first settlement of these, to be afterwards corrected. All those steps should, therefore, be considered as final; and the expense of this last survey should be defrayed, in due time, by the individual whose boundary has been settled.

The first formed map will be, accordingly, gradually filled up with the arrival of new settlers. In order that these may derive the utmost advantage from the experience of others, the local committee ought to give an annual statistical report, of the changes which take place within the district; being authorized to call for such documents, as may be necessary to complete it, from the whole of the inhabitants. This should embrace the information which a Government ought to possess; recording, at the same time, the changes and improvements as they take place; the increase of wealth of the country, floods, disasters, commerce, quantity and quality of the crops, &c. or in a word, whatever is necessary to improve the information of the future cultivator.

Such are the present changes, I would recommend in the Surveyor General's Department; having, as in the last instance, reference only to the line of policy I have first laid down, and putting out of the question the other plans with regard to settlers, which have been detailed in the 3d Chapter. Should the latter, however, likewise meet the approval of those who have the power of carrying them into execution, it will be a matter of little difficulty properly to adapt each part in the chain, in order that it may suit its corresponding link.

There is another department which ought, according to the above views, to be intimately connected with the preceding; and however insignificant it may appear in its present condition, I cannot, therefore, consistently pass it over in silence. In all the British colonies, I believe Botanic Gardens have been considered as necessary appendages; although the purposes to which these should be applied have either been uninvestigated, or altogether lost sight of. At present, they form elegant and delightful promenades for the ladies and the burgesses; they provide delicious fruits for the desert of the Governor, or for those who are honored by an entrée to the Lady Governess' bourdoir. As secondary objects,

they may have in view the transmission of the fairer flowers of the mountain, to deck the green-houses of the noble or illustrious, or the collection of the meaner productions of the wilderness to lumber the works of science, or to record the existence of those whose names would otherwise have been soon consigned to oblivion.

I cannot help, therefore, considering them, in their present state, as merely prodigal and useless modes of expenditure of public money; while the real purpose of their institution is corrupted from its legitimate objects, to such as are unworthy of a free and intelligent people. By all means, let the Governor have his fruits from his orchards; let the burgesses have their promenades in gardens, laid out at their expense. These may supply plants for the green-house, or dried specimens for the cabinets of the curious, converting the useless produce of the soil into sources of emolument; but the above are not the object of a Botanic Garden, which is a public institution, created for the purpose of introducing and improving every species of cultivation, which may tend to increase the wealth and prosperity of the state. It may, indeed, have likewise in view the introduction of articles of luxury, or the improvement of such plants belonging to the new country, as may seem likely to be converted to purposes of utility; but these are secondary objects, and only to be attended to, when the primary ones might be in a train of accomplishment.

It may here, indeed, be objected, that the Botanic Garden is an unproductive institution, and according to the previous investigation, it ought, under present circumstances, to be abandoned. This is because it is now merely a basis; at present it is only the commencement of an institution; but complete the whole, and it will then be rendered productive. Provided, therefore, that a change of policy has taken place in the Government of the country, similar to that which I have hitherto attempted to advocate; this institution must necessarily assume a different form; possessing a high rank, particularly in a young state, and being always considered as the head of the agricultural interests. Our garden having, in this case, been established, and an extensive collection been made of the useful plants from every country, the first subject of research would be, as to which of those were best adapted to the climate and soil of the new country. Having partially settled this point, our next inquiry would regard those of the latter class, which might appear to assume superior characters in the new country, whether these related to their quality or powers of production.

From this, or the former class, the Governor would select the particular plant or plants which he might consider best suited for general introduction into the colony. In doing so, he would look forward to future times, keeping in view the diminution in

the price of labor, which must be the result of a proper Government; and he would accordingly, judge of the results of the new cultivation very differently from what the expenses, at the period of introduction, would *a priori*, lead him to anticipate. When the selection has been made, the inquiry will again proceed with regard to the soil, situation, and management best suited to accomplish the intention. Indeed, it would be well that every plant, save corn, however well known in the older country, should first pass through a similar investigation in the new; so that when the result is ascertained, the bringing it from the garden, to the more extended cultivation of the farm, will form no longer a matter of doubtful experiment, but will constitute a sort of certainty.

The Government must still, however, commence on the smallest scale; because the culture is at first expensive, and the labor is badly or clumsily administered, more particularly where any thing resembling manufacture, is required to be applied to the staple; indeed, it is only after a lapse of several years, that the best or most economic mode, either of agriculture, or of subsequent treatment, can be properly ascertained. During this period, many unforeseen difficulties will occur; nor until such obstacles have been surmounted, should Government attempt to induce the settler to embark private capital in similar attempts. After, however, success has crowned its own efforts, means will require to be pursued, that the cultivation shall be increased in the proportion, and only in the proportion, of the demand; attending, at the same time, to the peculiar situation of the colony; and this must be accomplished by those means which appear most expedient for the general advantage. The Botanist will, during this time, continue his inquiries regarding the improvement of varieties of the plant, and in examining its diseases, &c. communicating, at the same time, to the public, the result of his researches. His labors will accordingly accompany those of the Governor; and these two, in the future history of the country, will be recognized as its benefactors, in proportion to their respective exertions, when their measures have reached maturity, perhaps long after the termination of their limited periods of existence.

As the variety of the subjects already introduced in this chapter, have extended these pages to a greater length than I had at first anticipated, I shall only add, before drawing it to a conclusion, a few remarks on the state of education; the superintendence of which, however insignificant it may be estimated, according to the scale of general opinion, must still constitute, according to the policy I have proposed, one of the most important duties of the Government.

The child, at his birth, although unable then to have charge of his own acts, is to be afterwards a free member of the state; and it is necessary that he should be, therefore, trained so as also to become

a useful one. Nature has implanted, for this purpose, an affection in the parent; not in man alone, but in all the higher animals, and this renders him the best protector of his offspring, during their infancy. The power of the parent, however, only extends to acts of benefit; nor does he derive from the Divinity, the slightest authority to injure his offspring. The Divine will evidently requires the exertions of the parent, in order that the child may be trained up in the best manner for its future happiness; and can this be done by mere attention to food and clothing? Is the body to be attended to, and the mind to remain inactive? Is the immortal portion of less consequence, than that of the animal, whose term of existence, even in our own eyes, is but as nothing? Where real, instead of artificial information, is communicated, it tends to give increased power and happiness to the individual; and the parent who desires to confer both, as far as in his power, ought to afford his offspring the means of obtaining it, during his pilgrimage of existence, by improving the early period of life, when the mind possesses the greatest powers of expansion.

According to the generally received opinions of European states, the Government of a country is the guardian of the young in all matters relative to its bodily treatment. It is superior, in this respect, to the parent, although it delegates its authority to him; but if it possess the power in bodily matters, shall it not exercise them in those connected with mind, and its improvement? If the power is legitimate in the one case, no matter from whence derived, can the other be excepted? But if the policy of the Government is indeed altered, and it has at length been considered its duty to increase the wealth and prosperity of the country, it then becomes indispensable that it should possess this power. In this case should a man, from ignorance, poverty, or other cause, be unable to educate his child, it must then be the duty of the Government, on the part of the community, to become the sole guardian of the infant.

The progress of a country in science, literature, wealth, and civilization, altogether depends upon the education of its members; and vain would prove our ruler's attempts to increase these, without possessing power over the source from whence they spring. Whatever be, therefore, the form of the Government, its chief legislator must view the institutions for the rising generation, as the treasury of the wealth of the state, and the basis on which it must be enabled to rise in the estimation of mankind.

Neither ought the benefits of education to be confined entirely to the males; since experience has taught that these cannot rise alone in their progress to civilization; they must be accompanied by the female. She is to be the mother, and the first guardian of the future males, and must, therefore, be fitted for the charge. The stamp that man receives during infancy is permanent; and though

it may be smoothed over by education, misfortunes, or society, *the character of the child is but expanded in the man.*

True, the above are not, and have never been, the objects of a Government; perhaps, because they would tend to weaken its authority; for the strong basis of arbitrary power has ever been raised on ignorance. Despotism is a plant that wooes the shade; its flowers bourgeon fairest in the midnight hour; they shrink even from the morning dawn, and when the sun has darted his first ray of light, the place of their existence is found desolate.

The male and female youths born in Australasia, assume a slightly peculiar aspect; the eye and voice almost invariably indicating their origin. As children, they are extremely handsome; more particularly so in Van Diemen's Land; but as they grow up, they get rather more tall, thin and bony, than agrees with our present ideas of the standard of beauty. They are mostly fair, and of a sanguine temperament; though by no means subject to those diseases which that description of persons would be liable to in Great Britain. During education, they are said to be much quicker in exercises requiring memory than the English; a circumstance, if correct, depending on the different temperature of climate under which the former have been produced. Mind and memory are, in all nations, mutually affected by it; wherever memory is rapid, thought flows, in general, in an equal proportion; but though the individuals of this description may surpass, for a time, the less active qualities of such as are produced in colder climates, nature frequently confers on the latter a solidity of judgment, affording them, when the mind is properly expanded, an immense superiority over the more brilliant talents of the former.

In the colonies, the public institutions for education, if there may be any deserving of such an appellation, are consigned to the care of the church. One-seventh of the land was, at first, placed in the hands of its dignitaries for this purpose, as also to defray the expenses of religious ceremonies; but these, in humble imitation of their superiors, have, I believe, now disposed of a considerable portion of this division. The instruction of youth is, in both colonies, in the lowest condition; indeed, this is what we should, from former experience, be led to anticipate. The church has now been in existence 1800 years; nor am I aware, during the whole of this period, that its priesthood have ever been the advocates for liberal education. On the contrary, the light of information has been viewed by these with dread, and when they have been intrusted with the care of infancy, they have continued to inculcate a blind attachment to ancient and semi-barbarous literature, while for ages previously they have employed their powers, in thickening around the soul, the meshes of superstition, from whose baneful influence it has yet scarce been able to disentangle itself.

The young Australasians, are consequently, an idle and degraded race; while the documents in the Supreme Court will show, that the principles of their fathers have been plentifully and successfully disseminated amongst them. Orphan schools, indeed, are in existence; and have been so for some time: but the greater proportion of the young belonging to the convict population are entirely without education. The Orphan Schools educate both males and females. In New South Wales, the boys are launched into the world just at the age when education begins to produce its most powerful effects, and at the period when the attention of the parent would be chiefly requisite. These are distributed almost amongst any who will take them, and are accounted apprentices, although the nature of the engagement under which they are bound, does not warrant such an appellation. They are situated similarly to convict servants, with the exception, that the master possesses a greater power over them. They mix freely with the former; and not having previously obtained any education, at least such as can be properly so denominated, the apprenticeship turns out rather to the convicts than to the master. The youth, accordingly, acquires their arts and principles; and when, at some future period, we find him an adept in their pursuits, surely we ought only to affix the blame on the Government, to whom the charge of his infancy properly devolved, and who has been thus clearly guilty of a breach of its duty.

The children of the Female Orphan School are, likewise, similarly treated, and apprenticed out. I have heard many instances of those surpassing in profligacy the most abandoned convict female; and on inquiry amongst the settlers, I could not find even one instance of their having turned out well. In fact, no interest is excited by the word Education; the Government viewing it with apathy, apparently insensible of its importance, and that the rise or degradation of the future generation depends principally upon its influance; the fathers cannot be expected to appreciate its value; they themselves have tasted but sparingly of the fountain of information, nor are they aware of its virtues. There is, indeed, a certain display of education in the colonies, but it exists merely on record; and the convict population generally cannot obtain it for their children, nor would they take advantage of it did they possess the opportunities. The lower order of settlers are similarly situated; and the higher ranks experience great difficulty in obtaining the first principles of education for their children; while they have ample reason for dreading the effects of contamination, which would, under present circumstances, assuredly be the result of a general intercourse at public schools.

CHAPTER V.

Preliminary remarks on the foundation of New Colonies.—Description of the first and unproductive stage, with proposals for its accomplishment.—State of the Colony at its termination, and preparatory to the commencement of the second stage.—Principle of Exports.—Division of Trades.—Chamber of Commerce, its constitution and duties.—Education.—Fundamental principles of Governments.

It has not escaped observation, that soon after the foundation of all our colonies, the descendants of the first emigrants, although living under laws and institutions similar to those in Great Britain, have rapidly assumed a character decidedly distinct from those in the Mother Country; and that the difference has invariably been unfavorable to the younger settlements. But although this tendency has been frequently remarked, it has created no particular inquiry regarding the causes producing it; and now, after having had the experience of 200 years in the management of colonies, whenever a new one requires to be commenced, the same system is pursued, if system it can be denominated, where every thing is abandoned to chance, and to the disjointed opinions of the multitude. True, the first American war has caused a slight alteration in the line of policy towards them. The Mother Country must no longer view them in the light of purchased slaves*, and she must, likewise, beware of evincing jealousy regarding their prosperity; but this is yet far from considering them as her legitimate offspring, entitled, in their infancy, to her fostering care, and in whose advancement to prosperity and independence she ought to feel a pride proportional to the rapidity of their progress. In the year 1830, we observe the same prodigality of expenditure, both of public and private capital; and the same misery required to be borne by the first colonists, as was the case at the commencement of the western settlements. Also, the same seeds of disease are engrafted during their primitive stages, which take root as the colony increases in population. These only appear evident as they rise from insignificance, tending to paralyse their healthy powers, and to dry up their different sources of prosperity.

Now, on casually viewing this subject, there appears to be no just reason why the inhabitants of a new colony should necessarily degenerate, with compared with those in the Mother Country; but on the contrary, benefiting by the experience they have obtained of the past; by the progress and error of former Governments, they ought to be qualified to avoid the latter, and to proceed, *pari passu*, in improvement with their brethren. I can perceive no absolute necessity for their being poorer; for possessing a free

* See Lord Chatham's Policy regarding America.

soil, and the state of the population only requiring the inhabitants to cultivate the better parts of it, according to the doctrines of the present day, corn should be cheap, and labor ought to be so likewise. The latter being governed, therefore, by the price of corn, the powers of the new settlement to export ought to be proportionally greater than that of the Mother Country.

The few remaining pages of this work have been accordingly devoted to this investigation. I wish it, however, to be distinctly understood, that I desire rather to commence the inquiry, and to examine into the truth of first principles, than to bring forward a new and finished plan. The problem certainly appears to me to be one of no common importance; its proper solution, perhaps, involves the progress of civilization of succeeding generations, elucidating the principles of political economy, for the advancement in happiness of free countries generally, as well as that of their transplanted suckers.

As we must have, however, some data to go on, we shall assume that a new colony is to be established, and that the first settlement fixed on, is the land at the mouth of the Tomat* and Murrenbijji rivers, which, after a long navigable course, discharge themselves into Spencer's Gulf. This situation is, however, merely selected, because we can better speculate on the productive quality of its soil, than were we to take, for this purpose, a new and unexplored country.

Our leading principle shall be, *that in order to obtain the full powers of the first inhabitants, they shall be combined for the general advantage; and, as our policy is to render these powerful, wealthy, and happy, according to the best of our ability, we are to permit no obstacle which we have the power to overcome, to restrain our efforts, or to oppose our progress.*

We may suppose, that the first powers of conducting the enterprise, is lodged in the hands of a Company, or body of intelligent men, so constituted, that their measures should not be likely rapidly to vary, as is necessarily the case when the power is lodged in an ephemeral ministry. These must be understood to be possessed of limited capital, and an unlimited poor population, to whom they are required to afford permanent relief. It will, therefore, be necessary to employ this capital in productive pursuits, not only to afford a return to its owners, but to produce the most extensive advantage to that population whose

* This river was, I believe, discovered by a Mr. Hume, and afterwards sailed down by Captain Sturt, to its termination in an extensive lagoon, which was previously discovered by a Mr. Forbes, master of a vessel named the *Prince of Denmark*. More substantial information is, however, required regarding the quality of soil, before this can be considered as a proper place for the commencement of a new colony.

condition they are anxious to benefit. Having approved of the general nature of the plan of proceedings, they would divide their funds according to the required expenditure for each year, and we may assume, that they reckon on ten years for the first stage; during which time the new country not only is to give back no returns, but is to require a continued expenditure of capital.

I shall, therefore, proceed, in a general manner, to detail the progressive steps of the first, and unproductive stage, and afterwards offer my remarks regarding them. The Local Government is to be despotic at its commencement, because the greatest efforts are then requisite; and it is, therefore, necessary, that the power should be vested in the hands of one, who would be responsible, for the success and progress of the whole undertaking. Our first efforts may be made with convicts, first taking the best and most active from the older settlements, and holding out to them what inducements may be necessary for insuring to the full extent their powers of exertion.

At the commencement of the first year, we should select as many situations for farms as the capital would admit, after calculating the expenditure for a series of years; and we shall assume, that thirty different stations are marked out for this purpose. These must be selected wherever the largest quantity of land can eventually be brought into cultivation; and we shall say, that an hundred, or an hundred and twenty acres of land, in one place, fit for cultivation, was the very smallest quantity that would induce us to make choice of any particular spot. Now, were we determined to produce the greatest effect with the smallest capital, we should only place one man upon each farm, increasing the number with the supply of food and necessaries produced upon the soil. This is evident, since the first hand is always the most expensive, and every succeeding one is less expensive upon the same principles as those already detailed. But as the relation of this process would be tedious, and as there might be aborigines to oppose the first settlers, we shall assume, that three were sent to each at the commencement, but that we had determined on doubling the number two, for six years successively. During the 1st year there would be, therefore, three men; 2d year, four men; 3d year, eight men; 4th year, sixteen men; 5th year, thirty-two men; 6th year, sixty-four men.

One of the three should have charge of the live-stock; none of it, however, is intended to be consumed during the first year. Now, in New South Wales and Van Diemen's Land, sheep give an average increase of 90 per cent., but say 80 per cent., one-half of which are ewe lambs, to be preserved, in order to increase the breeding stock. Hence, by allowing for deaths, this will about double itself in three years. Let 12 sheep, after the first year, be allowed

for the consumption of each man, per annum, and a breeding stock of 30 ewes per man, would therefore be required at the commencement of the settlement. But this is supposing our population to be doubled every third year; whereas on assuming that we were to double it every year, for six years successively, we should require about 300 per man to commence with. This will likewise tend to prove that the more gradual the progress, the smaller must be the ultimate outlay. If we should, on the other hand, take cattle, these would only double their breeding stock every fifth year, so that these must be imported with the intention solely of affording milk, and of supplying the first inhabitants with working bullocks.

The duty of the remaining two, assisted by the other, would be to clear, hoe, and cultivate 3½ or 4 acres of wheat. In Van Diemen's Land, as well as in New South Wales, when they have regular seasons, the produce of the first cropping may average, independent of next year's seed, 15½ bushels per acre; and 10 bushels per man is about the general allowance, so that there will be a surplus over and above for superintendence. These men will also have to build a hut; roughly fence the land; enclose a place for keeping their future working bullocks; and obtain what local information may be necessary for the second year's operations.

At the commencement of the second year, an additional hand will arrive, bringing with him supplies of clothing, &c. working bullocks, a plough, with necessaries for its repairs, &c. The others will have previously raised corn for themselves, and for the new comer, and will be likewise possessed of the male produce of last year's flocks, for the second year's food. A third of the number of the newly arrived, with the increased stock, will be sent to new stations, selected on the same principles as the first ones. The others, perhaps, after building him a hut, will return to reinforce the first stations. With their assistance, and that of the plough, the first year's men will find little difficulty in cultivating seven acres, namely, the last year's, which will now give a crop of 20 bushels to the acre, and three more of newly broken up soil. This will be sufficient to supply, during the ensuing year, four other men, besides those now employed; indeed, the second year's operations must be light, in comparison with the first; nor would it have been difficult to have made further progress this year, had there been a sufficiency of stock to have admitted of an increase of population.

During the third and fourth year, they would proceed in a similar manner. New stations being formed with the increased stock, and the former year's ones supplied with two men for cultivation, the remaining number, during the third year, will complete the fences for the first formed stations. In like manner, the

proper proportion of those of the fourth year, would be similarly distributed, while the remainder imported would be composed of shoe-makers, leather manufacturers, black-smiths and carpenters, sufficient for the present supply of the settlement.

Fifth year. After the new stations have been formed, and others supplied, as in other years, a party of builders would be introduced, sufficiently strong to complete the houses on the first farms within that year, for the residence of the settlers. These would arrive during this year, but in numbers *only* sufficient to occupy the first year's farms. They would most probably be young married men; but it is indispensable that they should be well educated, and that they should be possessed of superior talents, perhaps, to their successors, since on their exertions much must depend for the future progress of the colony. Attention would be also now paid to the orchard, the vinery, and to tobacco, if such has not been previously commenced.

Sixth year. Young married laborers would arrive as part of the increased population, to the first farms; the convicts retiring to the newer settlements to make way for them. The other stations would be increased as before. A coarse cloth manufacture would be commenced by the free laborers. The last year's settler would take a share in the details of Government, and others would arrive to occupy the second year's farms. The female portion of the laborers on the farms would be engaged in the loom, the dairy, or in lighter cultivations of tobacco and the vineyard.

During the seventh year, the same system would be continued; but the population, from this time, must only increase by a third annually. Flour and threshing mills would also be erected on the first formed farms.

Having now given a short detail, or outline, of the first and unproductive stage of the colony, we must next examine into the means by which we have accomplished our purpose. We have, it appears, about 2,000 individuals established in the new colony, and we have got through the roughest portion of the work. It will be evident to those who have observed the process of clearing land, that had we sent out those 2,000 individuals at once, they would have only been interfering with one another's work; their time would have been occupied in carrying provisions, and their progress would not have been greater, while the cost of accomplishing the same quantity of work would have been enormously increased. By the present mode, although the expense is by no means reduced to the lowest possible limits, still to accomplish the whole would not require a large investment of capital. The attempt, so far as we have yet gone, is within the compass of a body of private individuals, more particularly should they receive the convicts, as now, from the Home Government, without being burthened with the expenses of their transportation.

The settler, in this instance, is supposed either to pay at once for the improvements that have been completed on his farm, or else by instalments. In both instances the amount would require to be only an average valuation, since the first farms have been constructed at the greatest expense, which each succeeding year's operation have tended to diminish. The payment by instalments is the mode tending most to benefit the colony; and supposing the settler, therefore, to be possessed of no capital, he would be obliged to pay in produce; we should have, therefore, to refer to the second stage of our proceedings, in order to observe how this is to be converted into money. The proprietors of capital are, therefore, supposed to reap advantage by the preparation of new farms, and to continue their operations until the settlers themselves become first joint, and then sole proprietors of the stock invested: the only difference being, that the work would, in the latter instance, be accomplished by the colonists, instead of by foreign capitalists.

During the seventh year the sheep have increased, and amount, as at first, to thirty ewes per head, and adding likewise the males, the joint amount might be reckoned at fifty per man, while in New South Wales it is only at present, I believe, fifteen. I assume, therefore, that the laborer is brought out to the settler on the condition, that he is to serve three years for the expense of his transportation, and that the settler defrays this by means of his wool. The latter is always, however, a poor trade, and only fitted for a young state; since when the distance of the flocks increase, and the land becomes valuable, it must sink into insignificance. Nevertheless, we shall estimate its amount, in the young colony, at 125 lb. per annum, or 375 for three years, which would give, at 9*d.* per lb., £ 14 sterling per laborer. Now, if the colony should export, likewise, the provisions and necessaries for these persons during the voyage, leaving nothing to be paid for but tonnage, at the same time that this was decreased by the vessels watering at several intermediate places, the above sum would be ample for the accomplishment of the purpose. Also, supposing this to be a national undertaking, and that it is continued in the same proportions for a number of years, it is plain, that whatever country first steadily pursued such an enterprise, would eventually possess the largest quantity of shipping in the world, and almost certainly, therefore, become sovereigns of the ocean. These laborers will, at first, require strict but equitable regulations; and they may have previously, perhaps, to enter into such agreements, as may be necessary, after their periods of service have been complete; when the second stage has been duly considered and approved, and when the colony requires to be brought into a productive state.

It must appear evident, that throughout the whole of those seven years, our attention has been fixed upon the plough alone, and all

our buildings, cloth manufacture, establishment of carpenters, &c. have had reference solely to rendering it complete. Should we examine more closely the structure we have erected, we shall find it, however, full of imperfections; and that it is impossible to proceed without a complete change of measures. The suiting the supply of corn to the demand, would itself be a most intricate process, and a variation either way would spread misery amongst the inhabitants. Should we attempt to increase the population in proportion to the supply of corn, our live-stock would fail; while the moment that a stoppage in the increase of settlers took place, the whole colony would be involved in ruin.

By a reference to the rates of production of the soil in the two colonies, more particularly in Van Diemen's Land, it will be found that the proportional crop obtained from cleared, and previously cultivated, land, is 23 to 24 bushels to the acre of wheat, and 40 bushels of maize. One hundred acres of grain requires, at most, six men to keep them in cultivation, and if to these are added three more, for their proportion of carpenters, and other trades attached to the plough, we shall have 9 men producing 2,200 bushels of wheat, or sufficient for the supply of 200 men. *Therefore, if we cultivate in patches of* 100 *acres, one man, after the land is cleared, can produce corn for himself, and nineteen others.* By examining the present state of the colonies, however, we shall find that in New South Wales 20,000 agriculturalists are scarce able to supply themselves, and other 20,000 non-workers, with corn. In Van Diemen's Land, again, we have 14,000 agriculturalists supplying themselves, and 7,000 non-workers; also completing that required for the deficiency in New South Wales, during those years when the season in the latter colony has been unfavorable.

From whence, therefore, does this amazing difference in our calculations originate? Solely, I should answer, in consequence of permitting every thing to find its own level, instead of being governed upon steady principles. Where seven men cultivate 100 acres, each person acts upon a joint plan, whereas, in the colonies, as a whole, there is no plan or joint principle of action. Although were there a necessity for it, I have no doubt that the colonies could supply food for a much larger proportional population; still the cultivation is generally in small spots, and we have already remarked, how difficult it is in such a case for an individual to supply corn for one more than himself. The colonies are also constantly varying betwixt a surplus and under supply, more frequently the former than the latter, entailing thereby a continued loss on the agriculturalists. These evils are increased by the competition that is permitted, by which means the price of labor is enhanced, while the ratio of produce is decreased, when calculated with reference to the numbers who are thus employed.

It would appear, therefore, that in our further progress we must send out, eventually and gradually, nineteen individuals for every one engaged at the plough; but instead of nineteen let us say that ten emigrants were transported. Thus we should find ourselves, at the commencement of our second stage, on an equality with the older countries, having a similar proportion of inhabitants for mercantile purposes; and although we may not possess their machinery, still we can produce food cheaper than them, in consequence of having a better choice of land for cultivation. We must now, therefore, introduce a second class of colonists, and the question is as to how these are to be employed.

We have hitherto brought no money into the colony, although we have, as far as possible, endeavoured to diminish its dependence on the Mother Country for general necessaries. Let us for the present assume, that we have completely succeeded in this; and that we have fixed on some one article which we can supply to a foreign market. This may be wine, rape seed, oil, in fact, any thing. When one of the ten commercialists, therefore, exports a butt of wine, the produce of it, after paying the expense of carriage, becomes the representative in a foreign coin of the joint profits, after consumption, of all the laborers engaged in its manufacture. Now, possessing no money in the present state of the colony, it is not very material what this coin is composed of, whether gold, silver, or copper; for provided that it is a quantity, it continues still to be the same representative of the joint profits.

Hence, therefore, supposing all is yet joint-stock, and that we can ascertain *the general amount of produce of labor above consumption, we can likewise ascertain the value of the bushel of corn, and of the labor, &c. employed in its manufacture.* Also, in such a state, any thing that can produce a sum of money, or a foreign commodity, no matter of what value, after payment of the expense of carriage, becomes a fit article for export. By means of the first one export, therefore, the price of labor, corn, and colonial produce, become determinate, no longer depending on the outlay, but being now possessed of a real intrinsic value. Should that value be small, a less quantity of foreign produce can only be imported; but at the same time this will afford greater facilities for improving the future succeeding export. Still, however, a quantity of foreign material must be expected to enter into the composition of the first export, and this amount must accordingly be deducted from it, together with the expense of carriage. In this state of things, the best export for a young colony must evidently be, that of which there is a considerable consumption within its own limits, thereby affording it greater powers of increased expor-

tation; whereas the best export for the interests of the Mother Country is any unmanufactured or raw material.

With these premises, we shall now take a view of the colony, when her population and manufacturers have considerably increased. We shall consider each free member of the state as a joint partner in its wealth, in proportion to his production; and we shall recognise the principle, *that the connected operations of the inhabitants, are calculated to increase the total work of a community in a higher ratio than their disjointed operations; and also, that it is as necessary for individuals to submit themselves to government in the pursuit of wealth, as it is for their comfort and happiness to submit themselves to civil regulations.*

Let all the different trades, including that of agriculture, separate themselves into distinct bodies, sending deputies proportionably from each, to form a Chamber of Commerce. All of these branches would possess legislative rights regarding their own members: but in all matters concerning other bodies, their disputes should be settled by a third party, appointed by the Chamber of Commerce. If our corn banks are now placed in operation, and the issue of its notes is for one month or six months' consumption of corn, the total currency of the country may be represented, respectively, by one month, or six months' expenditure of all colonial produce, including exports. Hence, as we have before shown, that the intrinsic values in corn can be ascertained, these become immediately transferable into each other, at fixed and understood rates.

The Chamber of Commerce, thus constituted, would take cognizance, and govern every thing relating to the wealth of the country. Let us suppose, *that its first duty is to superintend the imports; only permitting that quantity to be introduced for which the country can afford to pay.* It would, therefore, give a preference to such articles as were necessary to increase its wealth; and would take precautions that these arrived at the consumer's at the least expense, diminishing, by these means, the first cost of the exports. In other words, it would not permit the country to be drained of its resources, and instead of having half of the population preying on the other half, by vending foreign commodities, ruining themselves, and causing others to be unproductive; these would be, therefore, obliged to become, in some branch or other, useful members of the community.

But suppose *that the Chamber of Commerce likewise superintended and governed the exports.* This would, indeed, stamp, at once, the nature of the Government, and produce the most powerful effects upon its population. We have already observed, that the value of the first export gives a value in foreign specie, or produce to corn, and to all colonial produce. We shall say,

that this *one* export produces, in a foreign market, after paying expenses, a sum equal to 1 of any coin; but suppose afterwards, that there is another export introduced of the same value, in colonial produce, which produces the sum 2 in the same coin. Now, if exports remain uncontrolled, the last export would raise the price of corn and labor; every thing, in short, entering into the composition of the first export, by which means it could no longer be sent without loss to a foreign market. This is what takes place in every country, owing to which there is a constant tendency to raise the intrinsic value* of corn and labor, and one export ruins another; so that there is a continued succession of misery in consequence of one export superseding another, whole classes of men being thus, in turn, thrown out of employment.

But if the Chamber of Commerce valued these in the country, at their first-cost exporting both, they would obtain the joint sum of 1+2, whereas all free trading countries would only obtain the latter sum. This is an important proposition, and the welfare of states depends upon its correctness. While exports remain free, there must be a continued flow of general misery and poverty which no system of legislature can prevent. Misery and population, it is said, must increase proportionally; man having no power either to stop their progress, or avert their evil effects. Now man has ever had the power to avert misery, when he has been aware of the source from whence it flowed; and can it be imagined, when in remote ages to come, the increase of population shall bring along with it a decrease of wealth, that the information of man will be limited to observing its effects, without obstructing its progress?

The total exports of the colony being, as supposed, 1+2, and these, respectively, equal to the demand, it would be evidently its interest to preserve the one of lower value, until another and a better could be substituted, even should it be deemed necessary to be ultimately abandoned, in order that the labor of those engaged in its manufacture may be gradually absorbed. But there may likewise be many circumstances rendering the less valuable export in a foreign market the most valuable to the colony; and it is, therefore, only by this means, that a necessary, though less valuable export, can be properly fostered. Also, a colony whose commerce is thus governed, in consequence of being able to prepare a less valuable export, possesses, by this means, a power to export infinitely superior to that of another, whose commerce is left to the indiscriminate fancy of individuals.

The Chamber of Commerce would, likewise, *control the quantity of produce required for internal consumption.* In consequence

* This has but little reference to the value in money, which is of itself but an imperfect representative of value.

of which, production would be pressed forward to its utmost limits, without being permitted to waste itself in surplus or irregular supply; deranging the general economy, entailing misery on a portion of the inhabitants, and detracting from the joint wealth of the whole community.

The respective trades would only recruit their ranks proportionably to the quantity of produce required from them; and thus commerce would no longer be governed by doubtful speculation, but by fixed and certain principles. Patents would likewise be no longer required, because each individual is a sharer in the general wealth, in proportion to his production. Consequently, on a new discovery being made, the author would receive from the community his proportion of its value, so soon as that could be properly ascertained; also general improvement must go on as in other states, since an improved article would, in the same manner, receive a proportional increase of value, over that of one of an inferior description.

By the formation of such communities, we should materially affect the ultimate Government of the country, whatever form that might assume. Instead of there being in this case, as in other countries, a few combined, and consequently strong, exercising dominion over the many weak and disjointed, so far as regarded their wealth and common interests, this would be a solid, compact mass, supporting a capital corresponding to the state of civilization of the basis. Man would not be, in such a community, a being without moral principle, who, provided he kept within the limits of legislative enactments, might act as he pleased: his rise in public opinion, and in wealth, would depend upon his honor and his ability: he would be no longer an unaccountable individual, supporting himself solely on his own resources; he would rise or fall with the general stock, and would hold his distinct position in a solid and compact body.

In limited monarchies, patriotism can scarce be a constant production. In these, every one's self-interest is either unconnected with that of his neighbour, or more commonly, injury done to the one, produces advantage to the other. Man, therefore, views his brother with a jealous eye, and whether the search is for power or wealth, success is generally purchased at a corresponding sacrifice made by the latter. Patriotism may, indeed, in those countries, burst forth bright and radiant during periods of general excitement; it may form the watch-word to those, who are eager in the pursuit of power, and glory, amidst the struggles of their country; but when to these fever heats have succeeded the dead cold chills of winter, it can only then be traced amongst the tombs of those fortunate few, whose names have been thus happily preserved from oblivion.

Rapid as have been the strides which the North Americans have made, their progress must be checked, unless they submit their commerce to the guidance of civil regulations. They will then start forward anew: but until that period, all their energies will be cramped by the same misery which at present universally prevail throughout the older countries. Her present government seems to resemble a tree, whose stem is barely able to support its spreading branches, because the fibres of which it is composed are separate, and consequently weak; but make each of those adhere together, and it will then be capable of supporting a nobler description of foliage, in proportion to the strength and quality of the cement, or the power that may have been employed in order to effect the object.

Under such a commercial constitution as I have attempted to describe, the increase of population would, ere long, add to the general wealth; and marriage would, consequently, require to be encouraged. By the joint operation, therefore, of this, and the known salubrity of the climate of New South Wales, the population ought to double itself in 20 years. There would, therefore, be quickly a large proportion of children requiring education; and according to the principles laid down, these should receive the first attention of the Government. Were we to teach them merely reading and writing, and the duties of religion, we would not have done more than has been the custom during these several thousand years. The Chinese and Eastern nations teach the same; but reading and writing is not information, they are only the principal medium through which we obtain it. The mind has not been improved by their acquirement, and no step has, therefore, been gained. Religious duties, however important, do not tend to civilization without something else; our ideas of the Creator improve as our minds become expanded. The laborer, also, is not merely to be considered as the machine by which a given article is manufactured; he is a component portion of a government, and the character of the one mutually affects that of the other. Again, the real information that man possesses regarding nature, and its laws, is yet but limited, and when deprived of the rubbish, by which it is obscured, the most important portion of it, can be communicated, during the periods now wasted in attention to ancient or other languages. Every individual ought to possess a general knowledge of the limits and extent of this field of space, within which our mortal observation is confined. The different divisions of it should be taught as a part of a whole, and not according to the present system, as separate and independent worlds, tending materially to contract, instead of expanding the ideas of infancy.

A seminary of this description would be on the plan of self-supply, with regard to food and clothing. This would afford

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the institution the power of providing for its orphans, who would be brought up respectably, instead of as now, in a colony where labor is high, and where they are only considered fit to be selected for the meanest and least productive employments. Every one would then be taught a profession, without attention to whether the individual chose afterwards to follow it. The first art or profession a man learns, assists him in the one he may eventually pursue. The hand, the eye, and the ear are susceptible during infancy of superior improvement to what can be attained in after years, while the want of attention to this fact, at present, renders the man of information often inferior in acuteness to the common mechanic. The teachers would be such persons as had distinguished themselves in the particular departments; who after improving their knowledge in other countries, should return to fill the place of assistants until vacancies might occur. The different trades would have also their agents at this institution, for the double purpose of recruiting their ranks, and of teaching their respective branches.

Now, if we suppose that the first generations of those have become productive, it behoves us to inquire as to the form of government which it is probable they would themselves select, or which may be best calculated for their peculiar circumstances. Their first primary institutions are so altered from those of other states, that it would be, perhaps, impossible to render their governments sufficiently applicable to their altered condition of the former; indeed, the attempt to do so, would seem like placing a Grecian capital upon an Egyptian pillar. Possessing, however, no model, we are obliged to inquire whether we cannot procure a more certain guide to proficiency than the experience of past ages; and perhaps in this search, we may happily find, that we can build a structure on as solid a foundation as those whose strength depends on ancient custom, or early prejudice. Our population are now educated men, and no longer the many-headed wayward monster, a public rabble. These will, therefore, demand such a foundation; they will inquire into the truth of first principles, well knowing, that unless these are sound and immoveable, the edifice erected upon them must be ever in danger of destruction, however beautiful it may, at first, appear in practice, and however well amalgamated may seem to be its different proportions. It has been for long considered dangerous and improper for individuals to canvass subjects connected with the rights of man, as opposed to power; but for the happiness of mankind, it is to be hoped, that this period has now terminated. Let us, therefore, freely inquire into the natural limits of any given government; and having established one single truth, we ought to follow, by its light, wherever it may be found to lead.

The following two axioms are recognised as the established law of nature. 1*st. The parent is bound to provide for, and to cherish his child, to the best of his ability, until the latter is of age to provide for himself.* 2*d. The son is, nevertheless, not the slave of the parent; and when he becomes of age, or is capable of providing for himself, he is free.* The Divinity has vested the parent with no authority to render his son a slave, neither can man recognise such a power as legitimate. The above being admitted, as they must be, the following corollaries will likewise be derived from them.

1st. The father, while the guardian of his son, cannot bind him by any bond to be accomplished after he becomes of age. When he is capable of providing for himself, he becomes independent of the father, and entitled to share in all the civil rights possessed by the father.

2d. The father having no legitimate authority over the son, when he becomes of age, cannot delegate what he does not possess to another. He cannot say to an elder son, do thou, and thy son's son, rule over thy younger brethren; because the younger sons are all equally free with the elder.

3d. The father could not, during the minority of his son, and while under his guardianship, insist on his executing a bond, to pay a certain sum when he became of age; since such would be an unjust application of his authority, and the power could not be, consequently, recognised. Or supposing the father had a law-suit with his neighbour, he could not legitimately give a draft on his son or grandson, to pay the expenses, without, at the same time, consigning to these sufficient of his own individual property to pay the full amount.

Let us suppose, therefore, a state, in which the father and son are the sole and only inhabitants. The father is, at first, the sole arbitrator, during the minority of the son; but the moment the son becomes of age, a period is put to the father's absolute power, and he can no longer act without the son's consent, in matters affecting their joint interests. Consequently, *no act of the father, with regard to that community, is possessed of legitimate powers, to bind for a longer period, than during the minority of the son.* With such premises, we possess extensive data for the formation of governments, in general. These are all constituted of the fathers of the succeeding generation, and we have only to proceed again over the same grounds, reasoning on the extended scale, as we have before done, with regard to individuals.

The legitimate duration of powers, therefore, of any government, ought only to extend to such an average period, as the present productive inhabitants or sons, independent of their fathers, exceed the numbers of their successors. And this

being the utmost limits to the duration of their power to legislate for the future, the intermediate periods must be proportional to the majority of the inhabitants, or their representatives, who may have voted in favor of any measure.

The fathers have, therefore, no right, permanently, to bind their sons to support any particular system of government erected by themselves. The sons being free, when they become endowed with equal rights, may change that system whenever a majority of the productive inhabitants, or their representatives, may consider such a measure necessary. The fathers cannot legitimately confer on any of their numbers an hereditary right to rule over their successors, whether in the election of one hereditary despot, or an oligarchy. The powers they give must be temporary, since they cannot communicate to another that which they themselves do not possess. Neither does it appear from previous history, that such is required, since an hereditary despotism, or an oligarchy, has ever had an invariable tendency to degenerate, while the powers with which they have been invested has been constantly exerted, in order to restrain the liberties and energies of the state. When those powers have been small, the aristocracy have required to be driven forward to improvement by means of the pressure of the inferior class; but when their strength has been sufficiently great to stem, for a time, the tide of civilization, the latter has at length swept them along with it, amidst carnage and destruction. A government, likewise, requires to have the fittest men for the temporary management of the state; whereas, by resorting to an hereditary aristocracy, it is at present morally certain of obtaining a set of men below the average of the highest class of the community then existing in that state.

A government thus constituted, could not give promissory notes of a longer standing than the average period I have mentioned; and if they should be pleased to amuse themselve with war, the fathers having received no power over the property of their sons, cannot give orders on their sons, or their grandchildren, for the amount of their expenses*. True, they might consign sufficient property to pay these bills, but this must be their own, not assumed property. The produce which they have taken from the soil, is theirs; they can bestow it when and where they please; but the soil and labor are not theirs to give. Man is but a life tenant of the soil; it is given him during his period of existence, and when that is finished, the next generation becomes his successor. Suppose a community existed on an island, containing one square

* Should a governor say that they had acted for the good of their successors, this would only constitute a palliation, since to do this in its defence must vest itself with a dangerous power, for which it could not produce any legitimate warrant.

mile, or a million of square miles; that though this was well inhabited, one person had monopolised the whole, and desired the remainder to pay what rate he pleased, for the grain. Is it to be supposed, that the remainder of the inhabitants would tamely submit to such monopoly? Suppose that this individual claimed the right, because it had lineally descended from father to son, for a few thousand generations; it must require to be clearly proved, still, that the first of these derived from the Divinity a right to monopolise the produce of the soil from his other copartners in the creation; also, the authority would require to be similarly shown, to sanction the transfer of the same, to his lineal descendents.

In a government restricted by similar limits, it would soon be a question, whether there was such a thing existing as crime; for if so, it would not be altered by being distributed amongst a number; and consequently, if it could be clearly shown, that wilful and deliberate murder was sinful in the eyes of the Creator, the quality of the deed would be the same, when committed by the sentence of the judge, as by the poignard of the private assassin.

But why should I prolong the present investigation. My intention, from the commencement, has merely been to start the inquiry, and not to pursue the first principles of legislation to their limits. Indeed in bidding, for the present, adieu to my readers, I must assure them I am well aware that these pages would have possessed a superior chance of being received with favor, had this last chapter been altogether withheld. I have not, however, composed it, in order to solicit patronage, or to flatter prevailing opinions; my desire has been closely to investigate the truth; and if the *principia* I have advanced possess that for their foundation, I shall rest assured that at some future period my labors will receive that attention which I conceive is merely due, on account of the importance of the subjects discussed.

END OF BOOK FIRST.

OBSERVATIONS

ON THE

NATURAL HISTORY, &c.

OF

NEW SOUTH WALES

AND

Van Diemen's Land.

OBSERVATIONS

ON

NATURAL HISTORY, &c.

COLLECTED

DURING A VISIT TO THE COLONIES

OF

NEW SOUTH WALES

AND

Van Diemen's Land.

Substance of a Report to General Darling on the Geological Composition of the Continent of New South Wales, including Van Diemen's Land. Sandstone Stratum,—Mountains,—Rivers,—Soil, &c.—Animals. Greenstone Stratum, ditto ditto. Limestone, ditto ditto. Fossil Remains.—Limestone Rock,—its Caves,—with evidences of the effects of fire.—Stalacticism, Red Earth, and Bones. Boree Cave. Wellington ditto.—Animals to whom the bones had belonged, with a list of those ready for transmission to England.—Observations regarding the Stream which must have occasioned this Fossil Deposit.

To COLONEL DUMARESQ,

PRIVATE SECRETARY TO THE GOVERNOR, SYDNEY.

SIR,

In conformity with the desire expressed by His Excellency, General Darling, I have the pleasure to inform you, that several boxes of specimens of fossil remains, collected at Wellington and its vicinity, are now ready for transmission to Doctors Fittan and Buckland, of London. I also beg, at the same time, to forward my observations regarding the situation in which these have been found; trusting that they may tend to throw some degree of light on this highly interesting subject. Perhaps I ought to apologise for my previous remarks on the general Geological structure of the country, which may perhaps be considered unnecessarily lengthened; I have, however, deemed them indispensably requisite, not only for the purpose of accurately understanding the particular nature of the situation of those fossil remains, but because they appeared to afford grounds for estimating the average

nature and resources of the whole of the unexplored territory, situated in the centre of this immense continent.

Those observations on the vegetable productions, animals, &c. which appear to mark the particular strata, are of course extremely meagre; nay, perhaps they may be, in some instances, found inaccurate. My endeavour has, however, rather been to lay the ground-work for future research, than to attempt myself to complete so extensive an investigation. I have merely desired to form a skeleton map of the country already visited by Europeans; and thus to afford opportunity of henceforth classing the different kinds of Zoological information, which it is to be hoped, will now be speedily collected.

Sandstone Stratum.—The first stratum, that is met with along the Eastern coast of New South Wales, is the Flœtz Sandstone. In the latitude of Sydney, it forms a line of about 100 miles breadth, inland or Westerly. As it is not met with but partially, in Van Diemen's Land, I should suppose that it gradually became narrower at Bass's Straits, increasing to the Northward. This stratum has a tendency to rise to the Westward, and consequently the rivers flow Easterly. According to the best of my memory, I remarked, in Van Diemen's Land, that it likewise inclined North and South, and though nearly horizontal, its highest point was towards the South. We should therefore expect, that the rivers would accordingly evince a tendency to flow Northward and Easterly. On the sea coast, in New South Wales, it forms tolerably high cliffs, often much excavated by the weather. In the interior, on first meeting with it upon the Goulburn River, it assumed the grotesque appearance of a series of immense Hindoo Temples; the resemblance indeed was so great, that I am led to believe, that those of the Mahadeb order, must have been first copied from some natural structure of a similar description. In Van Diemen's Land, apparently when combined with limestone, it assumes a Basaltic appearance, forming small broken fluted pillars, but having a certain slope; whereas the true Bazalt is in all cases perpendicular. Inland, it is tabular or slaty in both countries; and proceeding Westerly, it changes from white to red, passing through many varieties, both in colour and consistence; but invariably, when it re-appears through the next adjacent stratum, its colour always inclines towards red.

Mountains.—These have a tendency to form at their summits, long, flat, smooth, and narrow ridges. They can generally be detected at a considerable distance, by their peculiar form, save when the Sandstone combines with the next succeeding stratum; but even then, the mountain more commonly inclines to the particular form of the Sandstone, than to that of Wacke or Greenstone. They are often very steep, frequently as much so as those of

Gneiss, to which they bear a very close resemblance, although they are less broken and rugged. The loftiest of them, may average 3,000 feet in height.

Rivers.—Owing to the porous texture of the stratum, rivers are by no means abundant; and water is consequently procured with difficulty. It would appear too, that during their course, streams had a strong tendency to dissipate; or that when a river was once formed by the collection of tributary rivulets, the main stream was never equal to the joint combination of the others. The average extent of their course is but limited; their fall is rapid; nor are they generally suited, through any distance, for the purposes of inland navigation.

Soil.—Towards the interior, in the neighbourhood of rivers, this stratum is covered with rolled Whinstone. The soil, when composed of its own particles, is barren in the extreme, and unfit for the production of gramineus herbs; where, however, the particles of the Sandstone, in consequence of either natural or diluvian floods, become combined with those of the succeeding stratum, whether that be Wacke or Limestone, it is often extremely productive. This is chiefly the case on the banks of rivers, where the admixture of the Sandstone particles, would rather appear to have a tendency to improve than to injure the quality of the soil. As the productive properties of this last mixed description of soil, possess no peculiar character, that I am aware of, to distinguish it from that of the next stratum, I shall here confine my observations to the true Sandstone soil.

It is observed to bear the blue spotted Gum Trees, and the Stringy Bark; also towards the coast, the Iron Bark Trees. These are all different species of the Eucalyptus. Wherever grass is found, it is always of a wiry description, and in small quantity. In the lower protected places, this soil produces an immense variety of shrubs, chiefly belonging to the irregular classes of Linneus; they are perhaps also, characterized by the irregular length of their stamens. The blue Gum Trees crown the highest mountains; although becoming partially blighted, when exposed to the strong winds which blow with deafening violence through their gullies. Where the red Sandstone re-appears at Wellington, it is indicated by a species of Pine, which form the crests of the different ridges. The Grass Tree is found throughout this stratum in the greatest abundance.

Animals.—The Kangaroos are but thinly scattered over this country. They are of the Brush species, which, I believe, is the hardiest of any of that class. The King Parrot, a beautiful red Loory, is confined to those mountain regions; animals of all descriptions are, however, but thinly dispersed over this miserable and dreary country. The White Cockatoo, is only found in the

vicinity of good pasturage, especially where the soil is combined with particles of other strata; while the black species are observed to collect in extensive flocks about the sea side.

Wacke Stratum.—This stratum appears to be of the first importance to New South Wales; since it is chiefly selected for the purposes of husbandry and pasturage; and because it probably occupies the largest portion of this extensive continent. Where it originates on the preceding stratum, it generally possesses most of its characters; and probably, owing to its being likewise almost horizontal, a considerable distance may be passed over, ere the traveller is properly aware, as to whether the stratum more properly belongs to the one or to the other of these. Sometimes, however, it commences more abruptly, as at Cox's River; and likewise, I believe, at the Schatens in Van Diemen's Land, where it alterflates, by means of a transition Rock, which has been generally mistaken for Granite. This would, however, appear to be composed of Quartz, Smocky Rock, Crystal and Felspar, intimately combined together, and forming a grain which renders it tolerably suitable for the construction of mill stones. Generally, however, it commences with only the ingredients of the Sandstone; and as the stratum advances Westerly, it receives additional increments of Hornblend and Schorl. After this, it likewise commences receiving additions of clay, becoming more compact, and the particles more minute; in this state, the stratum assumes a dark slaty structure. Still further on, it begins to lose the Hornblend, becoming with the clay, a sort of Porphyry, which gradually passes again into Sandstone. This last description of Sandstone, is however, merely confined to ridges, and does not, as far as I am acquainted, occupy any extent of country. In Van Diemen's Land, it is foundalmost in the centre of the process above described; it there divides itself into Basalt and Wacke, which are likewise indicated by their respective mountains and productions in both countries; wherever the Hornblend is in greatest abundance, Asbestos is found; the series may therefore be thus detailed;

1. Sandstone.
2. Greenstone; the Hornblend gradually increasing until it forms Asbestos.
3. Greenstone; the Hornblend gradually decreasing and giving place to clay.
4. Red Sandstone.

In the midst of this, however, Limestone frequently presents itself, resting on the Sandstone, and adjacent to the Greenstone. As it is not found in regular strata, but in extensive masses, I intend to consider it separately, after concluding my observations on the Greenstone. The slope of the latter, is the reverse of the Sandstone; its highest point being towards the East, where it first

Fig 1.

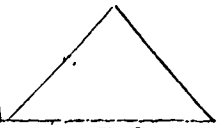

Fig 2

Fig. 3.

Fig 4

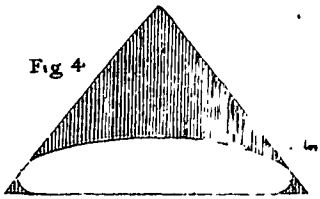

Fig. 5

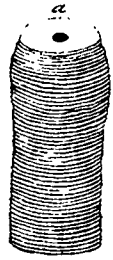

Fig. 6
Coral

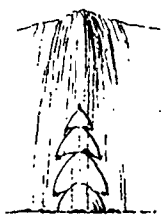

Fig. 7

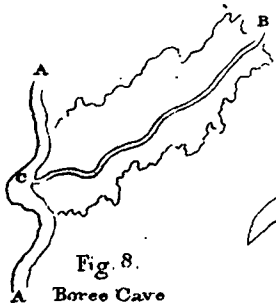

Fig. 8.
Boree Cave

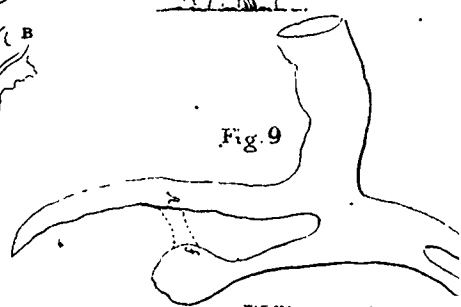

Fig. 9

Wellington Cave.

Fig. 10

Fig. 11.

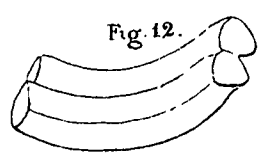

Fig. 12.

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CALCUTTA.

quits the Sandstone. It likewise would appear, from the course of the rivers, that it had a double slope; since, to the Northward, their course is found to be North Westerly, and to the South it is South Westerly. This has led me to conclude, that a Sandstone ring passes through the country East and West, forming thereby the resting points of this stratum. Its limits inland, have not hitherto been explored.

Mountains.—Where Greenstone is most silicious; without possessing an abundant proportion of Hornblend, also when it receives quantities of clay into its composition, the mountains approximate to those of the Sandstone, and more particularly in the latter instance. In the previous case, they are rather more detached, and evince less inclination to form ridges. Where the rock protrudes much, and assumes a granitic appearance, it likewise contains but little of the Hornblend. Plate ii. *Fig.* 1. Where the mountains rise in regular, and almost perfect cones, they generally contain a larger proportion of this mineral. Many of the above description have a rock projecting from their summits, as in several of the mountains in Van Diemen's Land, and in some of those situated in the vicinity of Cox's River, in New South Wales. *Fig.* 2. There is also a species of abtruncated cone, a form of mountain which I several times observed in the midst of the Sandstone stratum; but had neither opportunities of visiting them, nor of learning their composition. *Fig.* 3. Next comes the Basalt, which in Van Diemen's Land, constitutes lofty table mountains. There are also others, having crater-like summits, resembling irregularly truncated cones, and upon which those enormous crystals are observed to be extremely perfect. In order to give some idea of another species of this extraordinary formation, as observed in many of the cliffs in Oyster Bay, in Van Diemen's Land, let a perfect cone be first supposed to be divided by a plane, from its most Southern point, and from the *angle* of its base, to bisect its Northern *side;* and let the centre be afterwards hollowed, so as to describe a crescent open to the North. These crescents display wonderful regularity, and expose lofty perpendicular crystals of Basalt. *Fig.* 4. As the clay is added to the Greenstone, the mountain begins to get smoother, and retains less of fixed character. The presence also of the clay, indicates a disposition to form plains. It is in this situation, that the Limestone is met with throughout the country in great abundance.

Rivers.—These, as might be anticipated, increase as the soil receives additions of Hornblend and clay. The country is well watered with rivulets, as we recede from the Sandstone; and when the stratum becomes flat, by an increase of clay, extensive swamps are produced. The course of the streams is Westerly; their velocity is generally less rapid, than those in the Sandstone range, and they

are consequently better adapted for the purposes of inland navigation. Their rapidity is also greatest in the vicinity of the Sandstone, amd smallest wherever the clay is met with in abundance. Their waters contain a considerable proportion of alum, and in Van Diemen's Land, the streams are all of a darker hue, although, at the same time, their contents are perfectly transparent. There is not an extensive variety of fish in these, and I believe that most, if not the whole of them, are likewise inhabitants of the salt waters.

Soil, &c.—The first indication I observed of the change of stratum, was the presence of Iron Flint. Where the Hornblend is in smaller proportions, large quantities of Quartz frequently form a super-stratum; besides which, Argillaceous Schistus, Ironstone, Hematote, and Jasper, are likewise met with. The soil, as might be expected, varies extremely, changing with almost imperceptible gradations, from sterility to that of the richest quality, and from thence again degenerating into wet morass. Wherever the soil has been brought from the Greenstone stratum, to cover that of the Sandstone plains, it communicates to them fertility, and they then appear to differ in no respect from those of the most productive description in its own stratum, save, probably, in their being less plentifully supplied with water.

The stratum may be characterised, by being less thickly wooded; also by the presence of the Apple tree and Box, two other species of Eucalyptus. The diminution of the Hornblend, may be remarked, in Van Diemen's Land, by the presence of the she Oak, (a Casuarina,) the stringy Bark, (a Eucalyptus,) and by a bitter leaved Diadelphian plant, which is perhaps a species of Flamingo. On the Sandstone plains, in New South Wales, when the Greenstone particles intermix with those of the former stratum, it produces, towards the sea, the Cedar, and a palm somewhat similar to the Palmira. On its own valleys it bears the Light wood, a Eucalyptus, and also the Honeysuckle, a species of Banksia. In this country, Wellington, as well as in some of the mixed Sandstone valleys, the rivers may be traced by the marsh Oak, (a beautiful species of Casuarina,) and by the flooded Gum tree, another Eucalyptus. The grass is of a wiry description, at the commencement of the stratum; but as we advance towards the centre, it rapidly improves, after which it again begins to get of a coarser quality, and better adapted for cattle than for sheep pasture.

Where the clay is abundant, the soil, on the side of the hills, possesses more of the characters of a morass, than that of the valleys. These last are covered with a tolerably deep mould, under which is a light sand, and, under that again, is situated the clay, which retains the moisture. The hills are more thickly wooded than the valleys; but trees are very thinly scatter-

ed over the whole of the clay districts. In this particular situation also, as well as in many other parts of the stratum, the trees are far apart without underwood, and shew no indication of fresh production, to supply the place of the old. What the average age of these trees may be, I have not been able to ascertain; but there would appear to be a spontaneous change going forward, by means of which, those soils would of themselves, become eventually deprived of timber. The Eucalyptus, generally speaking, is a class of trees, seemingly belonging to, and produced in greatest luxuriance in a barren country; and when they are removed to a better description of soil, they would appear to vegetate in a situation, for which nature never intended them.

In my introductory Address to the Van Diemen's Land Society, I endeavoured to show, that the plains which are completely deprived of timber, such as those at Bathurst in New South Wales, or Salt Pan Plains, in Van Diemen's Land, are occasioned by the production or vegetation of saline substances, in that portion of the soil. On the examination of these, the trees are observed to become dwarfish towards the limits of the plains, which last are, however, always regularly defined. They are not covered with mould, the same as the other portions of the forest; but I understand, that evidences of their former existence may even now be discovered, by the black coloured earth, which had surrounded their decayed roots. These plains are apparently gradually increasing; they are well adapted for sheep pasture, on account of the saline particles which they contain. I regret my not having had sufficient opportunities of examining whether the plains, bare of timber, on the Sandstone stratum, have been occasioned by a similar process.

With some reference to this subject, I may here call attention to one of those remarkable circumstances, which have hitherto but slightly excited observation. In consequence of the burning of the vegetation on this stratum, and more particularly in the richest soils, the Wattle, or smooth barked Mimosa, is spontaneously produced in the course of the ensuing year. This is the second time I have endeavoured to attract attention to the interesting fact of vegetation being produced by artificial means, without the immediate intervention of seed; and now, after observing the circumstances which the different species of Eucalyptus are found, each respectively occupying its own peculiar quality of soil, I cannot but anticipate, that the whole of this extensive tribe, will ultimately be found capable of being likewise produced, by some artificial process.

Animals.—The smaller and more delicate species of the Kangaroo, such as the soldier Kangaroo, and the Wallaby, are

found inhabiting this stratum. These delight in rich pasture; but require the cover of trees, to which they may retire in case of danger. One might, however, at once state, that almost all the quadrupeds and birds, of New South Wales, were inhabitants of this stratum, since it occupies so great a proportion of its surface.

Floetz Limestone.—Although this is not properly a stratum, still, as it occupies a considerable extent of country, and assists in adding fertility to a much larger, it deserves a portion of our attention. It is found resting on the Sandstone, and adjacent to the Greenstone. It also generally leaves the Greenstone Easterly, and joins the Sandstone in a Westerly direction. It lies low, on which account, rivers are almost always found in its vicinity. I shall afterwards have to consider its texture, &c., with reference to Organic remains, which have only hitherto been discovered in this country, in combination with the soil that covers this rock.

Mountains.—The hills which the Limestone composes, are rarely an hundred feet above the surface of the fresh waters, whose elevation again, above the level of the ocean, is dependant on the height of the Sandstone. These hills present, generally, a smooth surface, but in certain situations, the rock protrudes in large masses, assuming sometimes, the appearance of the spires and ruins of a deserted city. This is particularly observable in the vicinity of the caves at Boree. *Fig.* 5.

Soil, &c.—Upon this rock, another mineral is found. It is, however, covered with good soil, composed of its own particles, intermixed with that of the adjacent stratum. In some places also, underneath this, is the stratum of red earth which contains the bones of animals.

The Limestone is particularly marked by the presence of the Coriiaum tree, one of the most beautiful varieties of the Eucalyptus family. It has a considerable resemblance to the Indian Sissoo tree, and it is generally found growing in the immediate vicinity of a cave. Other trees of the Greenstone stratum, are likewise observed to be scattered over this range; where, however, its rivers form sheltered hollows, the flooded Gum tree attains a gigantic size and height.

Animals.—I believe that the only animal which may be considered as more particularly belonging to the Limestone, is the Woomroo, a large black species of Kangaroo; the Wombat, a sort of badger, also takes refuge within its numerous caverns.

I shall now recur to the principle of this Report, namely, the circumstances under which the organic remains are found deposited in the Limestone. These are observed in various situations: first, in red earth; secondly, in red rock; thirdly, in a volcanic

sort of earth, intermixed with other alluvial matter; and fourthly, exposed alone upon the Limestone rock. In whichever of these positions they may, however, be detected, they at all times evince an inclination to form strata. The bones are of different descriptions, varying from such as might be supposed to have been shortly since deposited, to such as have acquired the character of stone, in consequence of the influence of Stalactic waters. They are met with of all sizes; but each size of bone, displays a tendency to arrange itself along with others, which had originally possessed a similar specific gravity. Those found in greatest abundance, appeared to me to have belonged to the Rat, Oppossum, Duck, and to the smaller varieties of the Kangaroo.

Limestone rock. This, as has already been stated, exhibits considerable difference in appearance. Sometimes its surface would seem as if it had formerly been exposed to strong heat, in which case, the rocks it forms, are of a harder texture, and assume a more rugged aspect; at other times it is found in long, thin, flat tables, which generally run in a North and South direction. It is all of the Flœtz order. In Van Diemen's Land, where no caves have hitherto been discovered, it is almost completely composed of marine petrifactions. In New South Wales, the traces of marine productions are less perfect; they are, however, distinctly marked; as, for instance, in the principal cave at Boree, where large quantities of a species of Coral may be observed. *Fig.* 6. The colour of the rock, near Wellington, is of a bluish grey, tolerably hard, porous, and incapable of receiving a fine polish. It must be recollected, that the original Limestone contains within itself, none save marine remains; nor have I observed the slightest trace of bone, under any circumstances, entering into its compostion.

Caves. In most parts of this rock regular cavities are found. These vary considerably, both as regards their shape and dimensions: but they always evince a tendency towards a globular form. Wherever they descend perpendicularly, their sides are smoother than those that are horizontal. The Limestone caves are not fissures, but resemble, on the large scale, the vacant spaces in a loaf of leavened bread. The whole of the Limestone, in this part of the country, is of a similar honeycomb description; and it consequently, would appear to be one of the first objects in the present investigation, to collect the facts, regarding this peculiar formation. It is impossible that these could have been excavated by the operation of a stream of water; since new ones are discovered, which, when opened, by means of a fracture in the rock, shew no indication of any previous connection with the atmosphere, or with one another. In the Limestone plains also, the situation of caves are frequently betraying themselves, in consequence of the falling in of the super-stratum of the soil after heavy floods, forming, thereby, considerable indentations or craters.

The only mode by which it appears to me, those caves could have been originally produced, is by assuming, that the whole mass of the Limestone was, at first, in a soft state, resembling dough in consistence, and during the same period, that it inclosed portions of water. Now had this been the case, and the whole mass, at the same time, of an irregular consistence, as it evidently appears to have been, we should naturally find, that throughout the softer parts, the caves or empty spaces, which had formerly enclosed globules of water, would be perpendicular, or would evince an inclination to ascend towards the surface; whereas, in those places, in which the exterior structure indicated, that a greater degree of hardness had existed in its previous composition, the globules, on being opposed in their ascent, would shew more irregularity in their formation, along with a stronger inclination towards an horizontal position. This accordingly is, what is generally observed; the indications therefore, in the construction of the caves, are such as would lead to the conclusion, that, at the period of their formation, the mass had either not been at rest, or that it had possessed, throughout, different degrees of consistence. Lastly, on the above supposition, the waters formerly contained in those caves, being necessarily saturated with calcareous matter, would have deposited a portion of their contents on the sides of the caves; and provided the newly formed rock was not itself immersed in a similar liquid, they would gradually filter through its pores, leaving their former residences unoccupied. This deposition of Limestone can be generally detected, forming circular Lamina, about three inches thick, around the roof and other parts of the caves; nor is this a common Stalactic formation, the Lamina being of a similar composition with the rock itself, and having evidently undergone similar revolutions.

Now it is evident that the Limestone, as well as those caves, must have been produced antecedent to their contents; indeed the contrary supposition would be equally as absurd, as that animals had been created before the world. It is likewise plain, that it must have been at one time immersed in the salt water, since it contains marine productions. These I have observed to be in greater abundance in Van Diemen's Land, where the Limestone is situated nearest to the sea; and the traces of its ancient dominion appeared to decrease, as the Limestone was found more remote from its present limits. This, if borne out by other evidence, would tend towards the conclusion, that the ocean had not rested for a length of time upon this rock; but that it had carried along with it, the remains which it has deposited, from its present or some more distant boundary.

Evidences of the effects of fire. The first appearance of the effects of fire, exists, as has already been mentioned, on the sur-

face of some portions of the limestone range; there would be, however, a considerable degree of doubt attached to this, if unsupported by other evidence. Secondly; when a fire is lighted in the vicinity of the limestone, it converts a portion of the superstratum of soil into a brick, very much resembling the red stratum in which the bones are found preserved. Thirdly; within those caves, and protected from the influence of the weather, many fragments of the rock may be observed, which exhibit a yellow vitrified, and polished enamel. Now the limestone will not receive a polish, by means of water alone; on the contrary, it is rendered more rough and porous by it. It would also seem, that at some previous period, this same enamel had been more generally diffused, and that it had been subsequently abraded; probably, by the same inundation, owing to which the remains of mammalia were afterwards deposited. Fourthly; in most of the caves, there is found a light volcanic dust, possessing a peculiar odour; its particles are extremely minute, and in the largest cave at Wellington, its depth is very considerable. On examining this cave, which is about 500 yards in length, one would imagine that this dust had been but just thrown up, by some subterranean fire, which had yet scarce ceased to burn. No bones are found mixed with this volcanic production in this cave, and from the manner in which it is arranged, it is impossible to conceive its having been brought into its present situation, by means of water. Fifthly; the most convincing evidence, however, of the effects of fire, is to be met with, at a place named Nauregal, twelve miles from Wellington, where I discovered a hot cave in the limestone, from which warm fumes continue to be emitted. I regret much being unable, notwithstanding all my exertions, to trace further the source of this internal combustion. I may here mention my having found, in some of the caves at Boree, small quantities of a species of the mineral Conchuck, which emitted a strong, disagreeable odour, and was incapable of combustion.

The caves are covered with Stalactics. When water filters through limestone, it receives a portion of it in solution; which it again deposits, on exposure to the atmosphere. There are two species of Stalactics; the first, or common kind, takes place from the roof, assuming the figure of a water-fall or fountain, while the place where the drop or stream falls, has a tendency to form a succession of cones, one above the other, so as to con-

* I mentioned, in the original Report, that the Burning Mountain, on Hunter's River, was, I understood, composed of Limestone, and that it continued still to emit smoke and flame. On afterwards, however, visiting that part of the country, I learned, that the inflammation was merely occasioned by a stratum of coal, in the Sandstone, having by some means caught fire; and that it now burns at a great depth, under the rock, producing, upon its surface, a considerable efflorescence of Alum and Sulphur.

stitute a pillar; the superior cone being generally smaller than the inferior. *Fig.* 7. The other takes place on the sides of the caves, assuming the appearance of certain species of lichens. When this solution passes through loose earth, it soon converts it into rock; but when it runs over its surface without moistening it, a white crust is merely produced.

Stalactics never assume the hardness or appearance of the original rock, which is of a bluish colour, and generally similar. When it comes in contact with a bone, it enters into its pores, and renders it apparently no longer subject to the process of decomposition. This would seem to be the cause of the preservation of all the limestone rock, and likewise to account for the recent appearance of those in other situations, which have probably been washed, from off the limestone, upon other strata. I should conceive, therefore, that we must be indebted solely to the Stalactic waters, for the preservation of all the organic remains hitherto discovered. Vegetable substances do not seem to benefit in a similar manner, being found, in various states of decomposition, amidst the Stalactic waters. In New South Wales, however, a somewhat similar effect is produced on vegetables, by a deposition of quartz or silicia, as the Stalactic water produces on the remains of animals.

Red earth. Although this is not the only soil in which animal remains are detected, it is still the one in which they are found in greatest abundance, and perhaps all have been originally derived from it. It covers generally the limestone, and lies next under the mould. It does not necessarily contain bones, and in different situations it varies considerably, both as to shade of colour and consistence: sometimes, indeed, it passes into a red clay; probably similar to that of which Porphyry is composed. I have, however, remarked, that wherever bones are deposited, it constantly exhibits a similar appearance. In the latter case, also, a considerable proportion of it, is generally converted into rock, by means of the Stalactic water; and where the roofs of the caves are covered with it, the Stalactic deposition receives a red tinge, in consequence of abstracting a part of its colouring matter. It seems to me, to be washing from the Sandstone rocks, in the vicinity of the limestone; since I have always observed it to increase, as it approaches that stratum.

In many of the caves, this earth does not exist, a circumstance easily accounted for, since they may not have been open, at the period when the catastrophe occurred that occasioned its deposition in other caves: indeed, no newly discovered cave, which has not possessed some previous aperture outwards, contains any of the red earth. Thus the great cave at Wellington is filled only with Lava dust, although its entrance is only at a few yards

distance from another cave, which is nearly filled with red earth, and which contains, likewise, the largest proportion of organic remains that have hitherto been discovered in any other situation. Caves are constantly opening after floods, in consequence of the water wearing away the Limestone; as, when it becomes too thin to support the superincumbent soil, the arch of the roof suddenly gives way: perhaps there is no rock less durable, by itself, than this Limestone. Fragments of it are enclosed in the red earth, and both of these must have therefore been brought by the same cause, into their present position.

Bones. These evince a constant tendency to form strata; the smaller ones by themselves, and one or two other gradations, by themselves. These strata have no reference whatever to the genera, they are merely arranged according to their specific gravity, and their resistance to the current. Thus, Ducks and Oppossums' bones are always found mixed together. Sometimes the smaller ones lie above, sometimes under the larger ones, varying in particular situations; but they always display a disposition to separate from one another. In the Wellington cave, the smaller sized bones are generally placed above the larger ones. Again, where the bones are least stratified, they are most commonly found in fragments; as if they had been forced into their present position, by some violent or irregular impulse. The crania of the larger animals, are always flattened, as if compressed during their recent state by some heavy weight. I have never yet discovered a complete pelvis of a large animal, nor the head of a duck nor the mandible of a bird; the claws of these are, however, observed in abundance, more particularly in red rock. The respective situations of these bones, may perhaps be better understood, from the remarks I have now to make regarding the caves at Boree and Wellington.

Boree cave. *Fig.* 8. The great cave at Boree, is situated on the edge of a tolerably strong stream, which flows to the Northward, A A. Another rivulet pierces the Limestone at B, passing through it under ground for about 200 yards, after which it reappears, and joins the principal stream at C. The cave into which the water has thus found an opening, is extensive and lofty, having numerous smaller ones ramifying from each side. On entering it, from the greater stream at C, we found an immense number of the lesser bones composed of those of Rats, Kangaroo Rats, and small birds, &c. All these were exposed on the bare surface of the rock, and in the course of a small Stalactic spring, having its origin in the roof of the cave, whose utmost height at that place might have been about 60 feet. I conceive that the general elevation, at this part of the Limestone, above the surface of the stream, may average about 80 feet. These bones were evidently brought thither by the above spring, which had likewise washed

a portion of them, within the highest flood mark. This last was about 8 feet, above the average height of the current. I therefore concluded, that they were still filtering through the roof, which is covered with that peculiar red earth, which contains the largest quantity of organic remains. The bones shewed a tendency to form strata; all the crania, for instance, being detained in one place, wherever a fragment of the rock, or other substance, had obstructed their progress. I was at first doubtful whether to consider them as antediluvian productions, so perfect and recent did they appear to be; and I therefore conjectured, that they must have been brought from the same unknown source, which had supplied materials for the more ancient deposit in the red earth; and should a similar catastrophe again occur, that they were preparing to form another stratum, of a similar but more recent description. Upon further examination, however, I was afterwards led to consider these, as likewise of antediluvian origin.

Proceeding higher up, towards the termination of some of the numerous apartments, and more particularly, where one of these led, by a small aperture, into another, we found a different set of bones. These were arranged in the same manner as the others, but were of a larger size; they chiefly consisted of Ducks, small Kangaroo, and Oppossums' bones. They were deposited far above the highest flood mark, and were combined with a very light, soft, seemingly volcanic dust; but which had evidently been brought into its present situation, by means of a stream of water. The larger bones, and the different crania, were generally separate, and none of a greater size than those of an Oppossum could be here discovered. This was about half way up the whole elevation, and throughout the smaller caves which branched off from the larger one, and at similar heights, the same phenomena were remarked.

At the top of this cave, which was at this place, perhaps 80 feet in height, and under the roots of an old Corijaum tree, I discovered splinters of a bone of the large amphibious animal, the same as that first found at Wellington, and which must have been of the size of a bullock, but possessed of much greater strength; in addition to these, there were likewise, bones of the larger species of Kangaroo. In a similar situation, broken within a crevice of the rock, I found a part of the thigh bone of the Emu; and deep down a perpendicular well or cave, were deposited the bones of animals of the size of the largest kinds of Kangaroos.

Wellington cave. *Fig.* 9. All the bones found in this cave, are either mixed with the red earth, or are enclosed in red rock; some few indeed, are also adhering to the older rock, by means of Stalactic cement; but this will afterwards appear to form no proper exception. The cave is elevated about 70 or 80 feet above a river, named the Bell, which flows Northward through the valley,

until it joins the Macquarie. The red rock, containtug bones, is to be found upon the surface outside, and may be traced there for a considerable extent. The rock, however, is so hard, that little use, as to ascertaining the genera of the animals, can be made of the remains found in it, although they are there in great abundance; it is therefore, only where they have been enclosed in the soft earth, that the specimens have as yet been collected. All the bones are much broken, as if they had been brought thither by a strong impetus; this is equally the case, whether they are found in or out of the cave. Outside, the bones are deposited in one rocky stratum, which lies deeper towards the top than the bottom of the ascent; thereby indicating a disposition to the horizontal. The smaller bones are in greater abundance, than those belonging to larger animals. At the period when a portion of this stratum had been first introduced into the cave, it is evident that the above-mentioned red rock, was then in a state of soft earth. It would also appear, that the caves had been at one time quite full of this earth, although it has now subsided into a minute part of its original volume; this will therefore, easily account for the bones being found adhering to the roof, as has already been mentioned.

Within the cave, the smaller bones are found on the surface, in a tolerably thick crust, which is almost entirely composed of them; this remark is equally applicable whether the sub-stratum is red earth or red rock. The largest bones are generally found in the deepest places; also separate or solitary; but they are most abundant wherever one apartment communicates by a low narrow opening, into another. The red rock, within the cave, must have likewise been formed, after the deposition of the bones; and the most entire of the latter, are those which must have last descended. The bones have evidently been broken, previous to their introduction into the cave; since I have never observed a single instance, in which the remaining portion of the fractured bone, has been found in the vicinity of the other; this remark is likewise applicable to those which lie without the cave. The larger bones are here more intermixed with the smaller ones, than in any other situation, in which they have hitherto been discovered.

Nature of the bones. As it is intended to forward the specimens which have been collected, to persons who are necessarily so much better qualified than myself, to do justice to this interesting subject, I am happy to be relieved from this portion of the report; more especially, as I am at present without a single work on Fossil Remains, with which I might refresh my memory. Lest, however, any accident should occur to these on their passage from this to England, I beg to subjoin the following memoranda of such as have now been prepared by me, for transmission to that country.

1. Bones of Oppossums, Oppossum Squirrels, Kangaroo Rats, and small birds.

2. Ditto of Oppossums of various species, Ducks, along with those of the smaller species of Kangaroos.

3. Has in both jaws, tricuspid teeth of the canine description, resembling rounded tridents; size perhaps equal to that of a Mastiff. *Fig.* 10.

4. The same; but somewhat larger; the tridents mitre-shaped; apex, sharp-pointed. Most probably, part of the remains of the Van Diemen's Land Tiger. *Fig.* 11.

5. Molares teeth tubular, curved; three of them would enclose a circle the size of a penny; has more than four molares, about the size of a small dog. *Fig.* 12.

6. Teeth in every respect similar to the last, save as to size; the animal, to which they had belonged, must have been nearly equal to a stag.

7. Only a portion of the upper jaw in stone; ear situated just behind the molares, which last are graminivorous. There is no appearance of a zygomatic process.

8. A small carnivorous animal; about the size of a Rabbit; it did not appear, however, to belong to the feline tribe.

9. Has belonged to an animal seemingly destitute of teeth; head much compressed; size of a small Kangaroo.

10. The upper jaw of a strong carnivorous animal, the size of a Leopard; the molares exhibit a plain surface, like those of a man, and the last one is placed inwards, at right angles to the other, but in the same plane with it. This animal is not of the Feline kind, nor is it at all similar to the Van Diemen's Land Tiger.

11. Is another very similar, but much larger and stronger.

12. I suppose this to be the under jaw of No. 10; it is very strong, short and narrow.

13. Resembles much, a portion of the upper jaw of a human being.

14. Is the upper jaw and head of a large animal, the size of a Horse. There are no incisors; but three large, round hooked canine teeth, each side, supply their places. The front one is the largest, being above three inches long; its curve forms the segment of a circle. The inner two are less hooked. There are 5 molares; the fourth of which is about two inches long and an inch broad. The jaw is divided in front, like those of the Camel kind. This would appear to be a pisciverous animal.

15. This is probably, the lower jaw of the above, but I should rather think it belonged to a smaller animal. Molares three, hatchet-shaped. It is very weak in comparison with the other jaw, and does not appear to have any incisors. The curve of the jaw is nearly semicircular.

16. Lower jaw of the same description as the above; but the animal could only have been about the size of a sheep. The curve is more obtuse than in the human jaw; it likewise seems to have had no incisors.

17. Is probably a smaller species of No. 12.

18. Are apparently Hogs' teeth.

STREAM. The first question that presents itself, would regard the water which brought this red earth into its present situation, namely, as to whether it was fresh or salt. Had it been the salt, we should naturally expect to meet with evident traces of marine productions: but this is by no means the case; for not even a vestige of the kind has been hitherto discovered. Now although marine remains are found combined with the Limestone, still, there are no bones existing in it; neither are there shells, of any description, intermixed with the red earth. As we likewise observe, that vegetables rapidly decay amongst the latter, a fact which will account for their non-appearance in a petrified state, we may consequently infer, that it was brought thither by means of a fresh water inundation.

As this flood must have risen by gradual increments, the bones in the caves must have been deposited, during its first increase; and consequently the hills, in the vicinity, could not then have been covered with water, whatever they might have been afterwards. There is therefore no data for supposing, that any race of animals, more particularly the Ducks, had been at that time destroyed. The Fossil remains which are preserved in the red earth, must accordingly have been, solely and only, the bones of animals, that had been previously collected, on the nearest adjacent mountains. Notwithstanding this, however, and calculating the usual periods required for bones, not having had the benefit of the Stalactic solution, to suffer decomposition, there is perhaps grounds for the belief, that this country had been then more thickly inhabited, than during the present period. Ducks, are now in the vicinity of Wellington, by no means numerous; a circumstance, which might perhaps likewise indicate, that the quality of the fresh water was then different.

Had this flood risen only to the height of the Limestone, it would have laid the greater portion of New South Wales under water; but since the deposit must have taken place during the increase of the flood, we possess no data for calculating the ultimate height of that inundation; nay, there is no evidence of its even having passed the point of this deposit. Now, as there are two distinct inundations, the first from salt water, and the second from fresh, it would appear to me, that the height of the latter can only be found by ascertaining the specific gravities of heavy bodies, amongst its deposit; for if these have floated to their present po-

sition, the height of the water which supported them, must thus be known for each interval.

Course of the stream. Although the fall, immediately at Boree, is much greater than at Wellington; it is evident, from the broken state of the bones, at the latter place, that the current must have been much more violent, either there, or somewhere intermeditate between the two places. Boree lies about 30 miles South of Wellington; and supposing the flood of the requisite height, the waters must have preserved their present course, flowing to Wellington from Boree; since the natural inclination of all the streams, is here towards the South.

The Boree stream takes its rise, from the Kanobilys, which are lofty Sandstone mountains, about 20 miles distant from the cave already described; whereas, in their course towards Wellington, the floods, being supposed to increase in their progress downwards, they must have had to pass through many narrow gullies, and the bones may consequently have got broken, long before their arrival at the latter place. I conceive likewise, that had all the bones, brought by this stream, received the benefit of the Stalactic water, they will ultimately be discovered, along the edge of this mighty torrent.

I have now concluded my observations on this truly interesting subject, and should they be considered deficient, by some, in the requisite information, I trust it will be recollected, that they have been necessarily prepared, without the assistance of books, and while suffering considerable privations, more particularly from the inclemency of the weather. We have been exposed, during the investigation, to almost uninterrupted snow and rain, without any other shelter than what the rocks afforded; and those who attended me, are now all confined in Hospital by sickness.

I have the honour to be,

Sir,

Your most obedient Servant,

JOHN HENDERSON.

Wellington,
July 1st, 1830.

CURSORY OBSERVATIONS

ON

NATURAL HISTORY,

CONNECTED WITH

NEW SOUTH WALES.

Meteorology, and Botany. Observations on Zoology, from the Order Insecta to that of Mammalia; the latter including the Natives of New Holland.

It is with feelings of disappointment and regret, that I review the contents of the present paper; and find, after nearly two years residence in Van Diemen's Land and New South Wales, I have not the power to offer a more valuable contribution to the stock of general information on these subjects. I trust, however, that the apology stated in the Preface will be admitted, and that I shall have credit for supposing that my efforts might have been less beneficially exerted, in collecting information individually, than in endeavouring to stimulate the Colonists, to commence an inquiry and registry of the facts, connected with the Natural History, and resources of their adopted country. The greater proportion of the succeeding remarks, together with a brief introduction to a proposed plan of improvement in the nomenclature of science, were read by me to the Van Diemen's Land Society, on its being first opened in the commencement of 1830; and as the latter paper has been subjoined to this work, in a more extended form, it will ill become me here, to eke out the number of these pages, by increasing the sum of those specimens, whose scientific names and definitions, comprise the total amount of information which we possess regarding them. I hope, however, I need not at the same time apologise for annexing, as under the first head, Meteorology, certain observations, not exclusively confined to those countries at present under consideration.

Meteorology. From the 38th to the 46th degree of South latitude, westerly winds prevail, accompanied by cloudy and rainy weather. The whole, therefore, of the Southern coast of New Holland would consequently be exposed to these, were it not for some peculiar influence produced by the land, causing a varia-

tion in the state of the atmosphere, at a considerable distance from its limits; still, however, westerly winds are most common towards this coast. The Western side of Van Diemen's Land is similarly exposed, and a much greater proportion of rain falls there, than in the interior, or in the remaining quarters of the coast. Rapid variations of winds and temperature occur in the vicinity of the Eastern sides of both countries; but South East, and South West winds are most prevalent. These generally take their rise from the North East, blowing gently, until they have passed the South point Easterly; but they become extremely violent, as they approach towards the West point. When they have passed somewhat to the Northward of West, the breeze is wont to lull, freshening again towards the North West, and avoiding altogether the North point.

From the 35th or 36th degree of South latitude, Easterly, and perhaps also on the Western coast, great droughts prevail, often for several years together; while at the same time, the rain would appear to fall as usual in the sea, near the coast. The clouds would seem to be repelled by some electric power, independent of difference of temperature, from approaching the land: but when this cause, whatever it may be, ceases to operate, deluges of rain immediately ensue, and frequently last for a considerable time. The above phenomena are, however, gradually modified by decreased temperature; whether produced by higher latitude, or by the altitude of those mountains, which are found in the neighbourhood of the coasts.

Hot winds prevail, not only in New South Wales, but likewise in Van Diemen's Land. In the latter country, they blow from the Westward, not passing from the continent of New Holland, but originating somewhere within the island. They are not felt, I have understood, on the Western side; and must consequently take their rise, amongst, or near those lofty mountains, which bound that coast. They possess the same qualities, as the hot winds of other countries; raising the thermometer, sometimes to 110, and causing considerable injury to those European fruits, which come to maturity during this season. They recur very irregularly; but fortunately do not last longer than two days generally at one time.

Snow seldom lies longer than two days, in the Southermost part of Van Diemen's Land, at an elevation a little above that of the sea; the temperature of the interior, being of course modified from this, by difference of altitude and latitude, and by distance from the coast. Frosts or mildews are extremely destructive to the grain crops, both in Van Diemen's Land and New South Wales; more particularly, in the inland parts of both countries. Their effects are more severely felt at present, when the deepest and richest soils, are alone selected for cultivation. These last

are found in the valleys, with hills of different altitudes, intercepting the line of the horizon. Suppose the cultivation to be so situated, and that either a small hill in the vicinity, or a lofty mountain at a distance, intercepts the rays of the rising sun; shading it during the morning hours, until they suddenly burst upon it, with increased strength, after surmounting those obstacles: few plants, under such circumstances, will be found sufficiently hardy, in low latitudes, and in countries where clear skies predominate, to come to perfection under such powerful influence. In latitude 30 North, the Himalya mountains, with a similar exposure, are destitute of trees; while they are found on the opposite aspect, rising to the most gigantic heights, amidst the richest vegetation. To the Southward, where the Himalyas pass through more cloudy and rainy countries, both sides of the mountain are covered with trees, although belonging to different species of genera. Now if Southern latitudes are colder than the Northern, the above effects should be more severely felt in those countries; since the perpendicular rays of the sun are not similarly influenced, by elevation or such causes, as those which fall more obliquely. The prospects of a grain crop are frequently completely destroyed, by those rapid transitions from cold to heat occurring when the plant is in flower; and more hardy varieties of wheat, &c., appear to be much required. I have understood that the black variety of the vine, is seldom or ever injured by those frosts.

On my return from New South Wales to India, I made some experiments on the temperature of the ocean; chiefly to ascertain its general relation to that of the atmosphere, when uninfluenced by the land. A table of the average temperature of the different degrees of latitude, North and South, calculated from the sun's zenith, would appear to be at present much wanted, for the purpose of establishing the effects produced on climate by extent of land, &c. Were this prepared with extreme and mean numbers, for the approach and departure of the sun, a basis would likewise be obtained for ascertaining the amount, and investigating the causes, of those meteoric changes, which have hitherto eluded the progress of discovery. Supposing that the intrinsic heat of the globe, originating within itself, to be equal throughout its surface; the series of degrees of temperature, should, when uninfluenced by other causes, be proportional to the decreasing series of the signs of the angles of the sun's rays, as they fall more or less obliquely on the earth's curvature. Unfortunately, however, we are arrested, even at the commencement of such a calculation, by our ignorance of either the intrinsic value of a moiety of temperature, or the relation of one degree of our scale, to its successor.

I have annexed to this Paper, a Table of some of the above experiments, the results of which I could scarce have anticipated;

they were, however, rudely performed, and would therefore require some further confirmation. My experiments have likewise led me to suspect, that the temperature of the ocean is influenced by other causes than the secondary effects, produced by variations in the temperature of the atmosphere. Within more narrow limits, the sea would appear to be in like manner subject to sudden vicissitudes of temperature; indeed the two would seem to be governed by different laws, although reciprocally exerting a secondary influence upon one another. Approximation to land, in low latitudes, would also appear to increase the temperature of the ocean, within about one degree, from where soundings can be first obtained.

Botany. On approaching New South Wales or Van Diemen's Land, the dull sombre tints of the foliage, is somewhat calculated to produce melancholy sensations; and the eye, even after being accustomed to this appearance, ever dwells with increased satisfaction, on the changes introduced by the exertions of the cultivator, than on that description of scenery, which calls forth the most pleasing ideas, when transferred with brighter coloring, to the canvass. Neither of those countries, produce almost any description of plant, adapted for the support of man in his more civilized condition; and one is almost led to imagine, on surveying the immense tract of dreary country, skirting the Eastern coast of New South Wales, that he had here commenced establishing his residence, before the gradual revolutions of the globe had prepared this portion of the continent for his reception. This space is, however, by no means deprived of vegetation; lofty trees in some parts, with an almost interminable variety of shrubs, bearing the fairest flowers, are found thickly covering both hill and valley; still it is almost entirely unfitted for the production of the grasses, and hence it is nearly destitute of graminivorous animals, as well as those who derive their subsistence from the other's destruction.

The most interesting, to the colonist, of the vegetable productions peculiar to the country, is the Eucalyptus; whose different varieties are distributed over the whole continent, and whose timber, in conjunction with that of the Cedar, is employed for almost every useful purpose. It will not surprise any one, who has perused the first part of this work, that no proper experiments have been yet made, on the qualities of the different varieties of the wood of these trees; nor have either Government or individuals deemed it worth while, even to make a collection of them. Some species would appear to be well adapted for ship-building; and probably will be found more so, when an effective mode of seasoning has been resorted to. Some of the species, such as the Lightwood, is even employed for ornamental purposes.

The Eucalyptus, is nearly allied in characters to the Cinnamon; the outer bark is deciduous, continuing during the year to fall off in longitudinal stripes. The leaves are aromatic, and from one species, the Peppermint, an oil has been extracted, similar to that of the Cajuputti. Another of the species, produces at one season a saccharine secretion, like that obtained from the Fraximus Ornus; and a bitter gum resin exudes from the bark, I believe, of the whole tribe. I have observed before, that they all appear to be destroyed by the intermixture of salt in the soil; their decayed trunks, frequently indicating the extreme limit of extraordinary flood tides. The propagation or vegetation of the muriates, in the clay districts in the interior, would likewise seem in a great measure to resemble the disease called ring-worm, as it is found to affect the human body.

The vegetable productions of New South Wales, and Van Diemen's Land, being different from those of the Eastern and Northern Islands, as well as the Eastern and Southern Islands, such as New Zealand, lying in its immediate vicinity; it becomes a subject of deep and general interest, to ascertain the source, from whence they may have primarily originated. Hitherto, investigations of this description, have been treated by the Church, as little less than impious; and as tending to invalidate the truth of the Christian revelations. When I observe a self-moving machine, such as a chronometer, so constructed, as to continue its oscillations with regularity, and correcting within itself the defects to which it may be liable, I entertain a higher opinion of the intelligence of its contriver than of one, who may have constructed a similar machine requiring the constant interposition of the engineer. For the selfsame reason, I conceive, that the discovery of every new power in the universe, of productions in order to supply its wants and defects, is calculated to improve our knowledge and estimation of the unbounded wisdom of its Creator.

In order to account for the propagation of vegetation, in those islands of coral, evidently brought into existence at periods not very remote from the present; the world has been contented to receive the hypothesis, with but little inquiry, that seeds have floated to their present situation on the waters of the ocean; and that birds have likewise been instrumental in their transmission, where saline impregnation might have been destructive to vegetable life. On examining the Cocos, which are islands of this description, we find them covered with a very considerable variety of trees and smaller plants amidst thick groves of cocoa. All of these are generally the inhabitants of saline soils, such as that found on coral islands, which are but just raised above the surface of the ocean; and probably few of their seeds would have been injured by im-

mersion for a short period in its waters. But supposing that they had floated from the main, we should have to assume either the presence of a sub-current, regarding which we have no other "data" to testify its existence; or we must suppose that the regular directions of the winds, &c. had been altered in an extraordinary manner, from the regular course in that longitude. These plants too, are not natives of New Holland; and it is even said that they are not natives of the sea coast of Java: from what tropical country, therefore, have they been originally transported?

It has been conjectured, that vegetation has been gradually propagated, in the older countries, from the mountain ranges; since the greatest variety of vegetable productions, are found in such situations. But a large proportion, of the plants of New Holland, are peculiar to that country; each being observed to select that description of soil and situation, which is found to be most congenial to its existence. Even had some mountain range been discovered, to the North of the Equator, where all these vegetable productions were collected; it would be still required to account for their transportation, over tracts of country unadapted to their habits. The difficulty would consequently be by no means diminished; since many of the trees and plants are entirely different on the coast, from those which are discovered in the interior. The information, however, collected upon this subject, is defective and inaccurate; the whole amount merely serving to indicate the probability of a power, residing in the earth's surface, of clothing itself, under certain circumstances, with vegetation; but falling far short, of satisfactorily proving its actual existence.

Upon digging a well, the earth that is excavated from it, is said to produce, in a short time, a different description of smaller plants, than those which are found in its immediate vicinity. Now, if this should prove to be correct, we must be restricted to one of two conclusions, in order to account for the phenomenon. Either the soil, through exposure, has exerted the power to produce these vegetables; or the seeds from whence they have originated, must have remained in a dormant state, since the occurrence of some general catastrophe, in consequence of which this soil has been submersed, or transferred from the surface, to the situation it occupied previous to being extracted from the well. The certainty of the truth of either of these conclusions, would be important to man; enabling him either to extract from the earth those non-existing plants, which we are aware of having vegetated during former ages; or placing him in possession of a power connected with the fact, that particular soils, when exposed to the action of the atmosphere, can produce particular tribes of plants, according as they may be influenced by climate or other peculiar circumstances.

It is stated, that in certain parts of America, when the older forests have been first cut down, shrubs and plants, previously unknown, spring up to supply the vacant spaces. A somewhat similar effect takes place, in particular situations in Van Diemen's Land and New South Wales, where the land, after being once brought into cultivation, has been for some time abandoned by the colonist. I have likewise already mentioned a parallel coincidence in the interior of New South Wales; where the soil having been enriched by vegetable mould, the contributions of centuries, seems to be no longer qualified to support its original description of trees, and hence there is little or no indication to be observed, of a reproduction of young plants, to occupy the places of their superannuated progenitors.

When quicklime is sprinkled upon certain soils in Great Britain, white clover is stated to be produced. This is a similar instance to those I have already brought forward; agreeing with them, after having been properly attested, in shewing the absurdity of the hypothesis, of such seeds remaining for ages, in a dormant condition. I have likewise remarked a corresponding instance, in the production of the Wattle, or Acacia Inermis, on certain situations, by the conflagration of the vegetation, in conjunction with the superficial soil; and I observe it casually mentioned by an English traveller in America that, within a limestone cave, like one of those in New South Wales, a new plant, of the class Cryptogamia, had originated from the exuviæ of cattle, which had been there employed, for the manufacture of saltpetre.

There can now be little doubt, that Fungi may be produced, by different artificial processes; while we likewise possess undeniable proofs, that an interminable variety of microscopic insects, inhabiting liquids, can be called into existence, by most minute changes in their composition. Why therefore, should we consider it extraordinary, if each description of soil should be able, under certain circumstances, to produce a vegetation peculiar to itself? A fact, when proved by concurring testimony, which would also account, for the particular richness in varieties of vegetation, observable upon the mountain ranges.

Zoology. I am not aware, that the generality of the Insect tribes, of New South Wales and Van Diemen's Land, possess any characters to distinguish them particularly, from those of countries in similar latitudes. Some of the Coleopterous class, which I have seen collected, exhibit brilliant colours; and I have no doubt, that many of the Papilio tribe, will be found endemial, whose larvæ subsist on the vegetables peculiar to the country. Spiders, resembling the Tarantula, are found of a large size and in considerable abundance; but I have heard of no instance, in which their bite has proved injurious to any of the inhabitants.

I discovered, in the interior of New South Wales, a coccoon affixed to the twigs of an Acacia, which I retained for a considerable time, under the idea, that it was the production of a silkworm; from which in external appearance, and in regard to quality of the staple, it could not, I conceive, be very easily distinguished. On afterwards opening it, however, I found its centre to be occupied by the usual number, composing a brood of young spiders*.

The Bee is not an inhabitant of Van Diemen's Land. In New South Wales, it is much smaller in size than the common house fly; but it differs neither in its habits nor in the flavour of its honey, from those of the larger descriptions. The natives required not the assistance of the indicator, for the purpose of discovering their treasures. During the heat of the day the bees resort to the neighbouring streams, in order to obtain water. They are there sought for by the natives; and on one being discovered, its body is cautiously wetted with saliva. While it remains imprisoned during the act of drying, the light white down of the Cockatoo, being dropped upon it, becomes by this means, closely cemented to its body. So soon as it again recovers the use of its wings, the insect flies away, bearing along with it this conspicuous mark, which is sufficiently heavy to retard its progress, and enables the keen eye of the native, to trace it to its horde. After this, the honey is obtained by setting fire to the tree†.

I was induced, during my previous voyage to New South Wales, to bestow some attention on those phenomena, which accompany the phosphorescence of the ocean, from their appearing to indicate, either most minute alterations in the state of its waters, or in the electric condition of the atmosphere. The insect which is observed in greatest abundance, inhabiting the superficial water of the sea, although considerably larger, resembles those microscopic eels which exist in vinegar. It is perfectly visible to the naked eye, and can be easily detected, in a common wine glassful of the liquid, by the peculiar circular motions, which gene-

* I do not think it has been remarked, that the silkworm of Bengal is different from that of Italy. In the former country, there are two distinct kinds, of which the one cultivated is white, whereas the Italian species is lead colored; being much more hardy, and subject to more alteration in its external covering, during the larvæ condition, than is observed to occur in the Indian variety.

† The Bees of Hindoostan, are very large and fierce; their honey and wax, however, have nothing to distinguish them from those produced in Europe. They usually congregate together, in numerous hordes or swarms, attaching themselves to the upper branches of the larger trees. In this situation, it is dangerous to disturb them during the day; and not only are horses and cattle sometimes destroyed by them, but I have likewise known instances, in which several individuals have been stung to death, from accidentally disturbing one of these warlike communities.

rally characterize similar animalculi. Towards the equator, their number may amount to about 8 or 10, to the cubic inch; whereas, in latitude 44 south, there are perhaps scarce one-half of that proportion. Under common circumstances, they are not phosphorescent: still I am led to believe, that they become so during some rare and extraordinary occasions, producing a certain milky appearance, which pervades the general surface of the ocean.

The common insect, which is luminous in the dark, is much more thinly distributed; it is somewhat larger than the foregoing, and is shaped not unlike the common crab. I however remarked, four or five other and rarer varieties; all of which are probably phosphorescent, and all exhibit greater differences in external appearance, than is observable amongst the larger description of animals. The light emitted by those animalculi, does not appear to be under their own controul, but would seem to be excited only by the rapid friction of the water against their bodies, although not by their own natural motion through that medium. On the other hand, an animal flower, somewhat similar to a common red fungus, emits a constant and uninterrupted light; which pervades a circle or moon, whose diameter is perhaps twenty or thirty times as large as itself. There is likewise another kind of phosphorescence observable in Western longitudes, which is emitted in repeated large flashes of light, evidently issuing from a considerable depth, and whose origin has not hitherto been satisfactorily accounted for.

There are several varieties of snakes, both in Van Diemen's Land and New South Wales; and all, more particularly the Diamond Snakes, are understood to be poisonous. Sucking the wound is a common remedy resorted to by the lower classes; and I have heard of instances, in which cautery was applied, by exploding gunpowder upon the part affected. Accidents, however, requiring such an application, happen but rarely; and a casualty resulting from the bite of a snake, has, I believe, seldom or never occurred.

It has already been mentioned, that the rivers contain but few varieties of fish; and those are likewise capable of subsisting amidst the salt water. The brine and eels are abundant in Southern latitudes; but the other smaller genera have not heretofore been attended to. Around the coast of both countries, the leaves of the gigantic sea-weed are observed spreading themselves over the surface of the water, in regularly defined patches or plantations. They are found in from three to perhaps eight fathoms depth; and are very apt to be mistaken for sunken rocks or for low islands. These marine forests provide shelter and subsistence for large quantities of fish, as well as for a variety of the insects which inhabit shells; indeed, both countries appear to be provided by the sea, with

ample means of supplying food for a dense population, whenever circumstances shall have induced their inhabitants, properly to appreciate such resources. The varieties are not very abundant; nor am I aware of any of these, with the exception of a rare genus called the Chimera, that is not likewise a native of Northern countries.

The black whale and black fish are found on the Southern coast of New South Wales. The latter are frequently observed collected in shoals, at a great distance from any land, lying motionless upon the surface, as if basking in the sun-beams; while the former resort, during their breeding seasons, to the deep estuarys of rivers, and particular bays around Van Diemen's Land, and Bass's Straits, &c. I have already mentioned, that fewer numbers now resort to these their former haunts, in consequence of their being so constantly pursued, and perhaps also on account of the impolitic destruction of the young cubs. The country-born colonist in both settlements are extremely partial to this fishery; most probably from the wild, roving, and not unfrequently lawless life, which it gives rise to. They are, however, bold, active, and expert, during the excitement of the chase; and the country-made whale boats are considered to be of rather a superior quality.

The smallest fishery generally consists of two boats, supplied with eight hands each; along with another small establishment on shore, for the purpose of boiling, &c. All of these are provided with certain rations by the proprietor, and they receive shares, in various proportions, amounting in all to 36 per cent. of the produce during the season. The cost of the materials and provisions, as above, may amount, during one year, to about £300; whereas the smallest expenditure required within the colonies, for commencing the Sperm Whale fishery, to be employed on the coast of New Zealand, would average about £6,000. No indigenous description of timber adapted for casks to contain the latter oil, has hitherto been discovered: molasses and oils generally being observed to filter through almost all those woods, which are qualified for the retention of either spirituous liquors or for water.

These countries are less remarkable for the numbers than for the varieties of the feathered tribes. Owing to their showy plumages, numerous collections have already been made of their external coverings; and descriptions of these, with their corresponding nomenclature, now compose part of every system of Ornithology. The Accipitrine order are particularly numerous; and must evidently resort to other modes of subsistence, than the destruction of the smaller species of birds. The eagle-hawk is extremely bold, and very injurious to the young flocks; when tamed, he is sometimes used with advantage to protect the new crops from the serious depredations of the white cockatoos and parroquets.

Of the Omnivorous order, the crow is peculiar to the country; and it is remarkable, that its nest has seldom if ever been discovered. The Derwent magpie, when properly taught, in addition to the characteristic qualities of the other species, can scarce be surpassed in vocal powers; in richness of note, it has a considerable resemblance to that of the thrush. The parrot tribe are very abundant; each district of the country appearing to he provided with species peculiar to itself, and some few are likewise observed to be migratory. They are all, with the exception of the black cockatoo, capable of being easily domesticated; in which state, they evince wonderful varieties of disposition. I am not aware, whether hybrids have ever been produced between any of the different species; as might be suspected from the number of varieties, and the slight shades of difference, frequently subsisting between them.

The Passerines are by no means numerous: the same may be said of the Grallæ, and only one species of pigeon, is common in both countries. The Emu retires from the colonized parts of New South Wales, where it is pursued at certain seasons by the natives; both for its eggs, and on account of the young fowls. It is likewise hunted by dogs; the common kangaroo dog, soon acquiring the habit of seizing it by the neck, and thus avoiding the dangerous effects of its kick. The natives, on a hunting expedition, form a wide circle around them, and gradually contracting it, spear them, as they attempt to break through their line.

Of the Gallinaceous order, the quail are abundantly dispersed over both countries. The bustard is migratory; visiting the interior parts of New South Wales, in the commencement of the spring; while a splendid pheasant is likewise found within the latter country, in particular situations amongst the Sandstone mountains. The black swan inhabits the inlets of the sea and mouths of rivers; they are however rapidly decreasing in numbers, as the country is becoming colonized. They are caught during their moulting season, being then unable to fly; after this, they are slowly starved to death, in order that the oil may be absorbed from their skins, which are afterwards intended to decorate the ladies of England! They are stated to survive in this manner, without sustenance, for, from ten to fourteen days. The penguin inhabits the islands to the southward, and myriads of the black Petrel, are found in various parts of the coast. Their eggs and young, which are deposited in perforations made in the ground, afford ample food during the breeding season, for the tribes of natives who sojourn in the vicinity.

The common Platypus (Ornithorineus Paradoxus) is found in rivers, both in New South Wales and in Van Diemen's Land. I

have frequently observed it in company with the musk duck; it swims low in the water, and as it dives rapidly, it is by no means easily shot. It would appear to me, to be strongly allied to the beaver, both in its appearance and its habits. From the peculiarity of its generative organs, and from its being considered as the connecting link between birds and quadrupeds, it has lately excited considerable interest; yet it even now remains a matter of doubt, whether it is oviparous or viviparous. A gentleman residing near the river Hunter, who is accustomed to preserve skins for transmission to England, has assured me, that he once dissected a female, within which several eggs were discovered of different degrees of maturity. I have never myself had an opportunity of inspecting the body of one; but I understand, that like most of the other animals of Australasia, the urethra terminates within the rectum.

The different varieties of the kangaroo are numerous; but strongly resemble one another, in their general habits, disposition, and external appearance. They are in fact a division of the genus Mus; being most intimately connected with that tribe, by definitive characters, although possessing, at the same time, a different description of generative organs. Each species, as has already been remarked, is found residing in particular districts; the brush and the kangaroo rat are, however, observed to be most equally and generally diffused over both countries. The latter is a night animal, sleeping during the whole day, even after being domesticated; and all the others are more or less inclined towards a similar disposition. When young, they are all tamed with facility, more particularly the brush variety; during which state, they appear greatly deficient in indications of sagacity. They are generally gentle in their manners; but exhibit at the same time, marks of a stupid wayward, and often fretful disposition.

Their leaps and speed, in the wild state, would seem to have been somewhat exaggerated; as the kangaroo dog, which is probably a cross between the shepherd's dog and greyhound, and which hunts likewise by *scent*, soon acquires the habit of destroying it, after pursuing it for only a very short distance. The larger species, however, frequently succeed, while at bay, in inflicting severe wounds upon the dogs; and they are stated to endeavour to drag their opponents, on certain occasions when hotly pressed, into deep water or even the sea, for the purpose apparently of drowning them. The female, carrying a large young one in her pouch, and when closely followed by the dogs, takes advantage of any thick bush, to thrust it into it; by which means she herself is better able to continue at full speed, while

her young one generally succeeds in concealing itself amongst the surrounding leaves or brushwood. They soon leave those districts that are located by Europeans, and retire further into the interior; indeed, they most probably will be completely extirpated long before these countries become properly colonized.

The skeletons of the various species exhibit but few distinguishing marks, save difference in point of magnitude. The urethra in the female, and I believe likewise in the male, terminates within the rectum. The organ of generation in the latter also curves in an opposite manner to that of quadrupeds in other countries; rendering it probable that copulation can only be performed when animals are facing in contrary directions. The organs of generation in the female have been but little investigated. The pouch, as it is termed, appears to me, to be in fact an open womb, wherein gestation proceeds in a nearly similar manner as occurs in the wombs of the other tribes of mammalia; while in consequence of this peculiar contrivance, the whole process can be here subjected to minute inspection, from its earliest commencement.

Two mammæ are found inside of this external womb. The kangaroo produces, during her period of gestation, only one fœtus, which first makes its appearance at the tip of the nipple. In this state it neither differs in size or form from the fœtus of another quadruped at a similar period of progression; save that the umbilical cord is here attached to the lips; in such a manner, that the lungs cannot be inflated previous to its rupture. It is therefore most likely, that the nipple, during the first stage, constitutes the mouth of a fallopian tube; and that the umbilical cord, having been supplied from the nipple as from a placenta, passes through the æsophagus and stomach towards its usual destination; after which, the circulation is carried on in the ordinary manner. When the fœtus is about half grown, and it is removed from the pouch by the hand, leaving the cord unruptured, it appears to possess an instinctive power of replacing itself in its former situation, without any assistance from the mother. I am not aware whether males and females are produced from either nipple indiscriminately. The period of gestation, or the length of time intervening between the first appearance of the fœtus and the rupture of the cord, is not correctly known; but when this has occurred, the mammæ immediately begins to secrete milk, and the young kangaroo continues more or less to reside within the pouch, so long apparently as it can find sufficient room to dispose of its increasing dimensions.

The oppossum tribes are abundantly distributed over both countries, and their varieties are likewise tolerably numerous. The black and ring-tailed, are chiefly confined to Van Diemen's Land: the common brown oppossum, is most generally and numerously

dispersed over both countries. The flying squirrel oppossum, is pecullar to New South Wales; and the sloth oppossum is likewise rarely found within the latter country, in certain peculiar situations. There are, however, I am aware, several other kinds, some of which are less common, and others are the inhabitants of the more northern districts. The black species and the flying squirrel oppossum possess the softest furs; the latter is furnished with a membrane, exactly similar to that of the animal from whom it has derived its name, and by which it is enabled to transport itself from tree to tree with somewhat greater facility than any of the other varieties. The sloth oppossum is by far the largest of any of the species hitherto discovered, and is by no means unlike some of the sloths, either in the peculiarly disagreeable expression of its countenance, or in the general unwieldy-like combination of its different proportions.

In habits, the whole of the tribe are extremely similar, and it will probably be afterwards found to possess few definitive characters, with the exception of their peculiar generative organs, to separate it from the other species of Sciurii. They are all night animals, residing during the day in hollow parts of the Eucalyptus; in which situation, they are found rolled up like the common squirrel. When it gets dark, they issue from these recesses; and may then be traced by their peculiar cry, which is shrill, and likewise closely resembles that of some of the larger species of the squirrel. In consequeuce of their strong smell, the tree which they may have selected for a residence, is easily pointed out by a kangaroo dog, or terrier; when they may be observed by the light of the moon, seated almost motionless in pairs, on the extremity of a decayed branch, and taking advantage of the surrounding foliage, to conceal themselves from observation.

They compose the principal food of the natives, who easily discover them during the day, by means of their tail; and when they cannot extract them from their hiding places, they oblige them to evacuate by the application of fire to the trunk of the tree. Their flesh possesses a strong disagreeable flavour, which is said to be removed, by burying it in the ground for twenty-four hours; it is not, however, resorted to by Europeans, even of the lowest orders, except under the most pressing circumstances. Some estimation may be formed of their relative numbers, from the untanned skin being retailed in the country, at an average of four pence per skin; being procurable at that price in tolerable considerable quantities. The skeletons of the various species are all extremely similar; and as to their generative organs, every remark which I have made regarding kangaroos will be found equally applicable to all those varieties of the oppossum, which have hitherto been discovered in Australasia.

There is one species of the Viverra, which is very numerous in both countries, and is sometimes extremely destructive to poultry. Its color approximates to that of the ermine; and like most of the other animals of New South Wales, it is only visible during the shade of night. I have never had an opportunity of examining the generative organs of any of the tribe; but I understand, that they are similarly constructed as those of the kangaroo and oppossum, excepting that the viverra produces six instead of one, during her period of gestation.

The Van Diemen's Land hyena is now peculiar to that country; although it would appear from the organic remains found at Wellington, that they have at one time been much more extensively distributed. It is about the size of the hyena common in Hindoostan, and appears to have no very peculiar character, to occasion its being separated in classification from the tribe Canis; with the exception of the organs of generation, which are here similar to all those of the foregoing genera. It likewise feeds during the night time, its proper food being carrion; but when that cannot be procured, it will then attack the flocks, and in certain newly settled districts, it is found extremely destructive to the young lambs. Its habits are little known; indeed it is seldom or ever seen, save when caught during the night, in the snares set for it by the shepherd. None of them have ever been known to attack a man; nor do their depredations almost ever extend even to the elder portion of the flock. A badly prepared specimen, the only one I have seen, was kindly given me by Mr. N. Hornby, of the Bombay Civil Service; and this has lately been described by Dr. John Grant, in a letter published by him in the "GLEANINGS IN SCIENCE." for June 1831*.

* "Through the kindness of my friend Dr. Henderson, I have the pleasure to send for the inspection of the Asiatic Society, the stuffed skin of an animal from Van Diemen's Land. It is called by the settlers the Van Diemen's Land *Tiger*, and proves very destructive to sheep. Whether it be synonimous with the creature called the Van Diemen's Land Hyena or not, I will not take it upon me to say; but the members of the Society will judge for themselves, as far as the following quotation from the last Hobart Town Almanack may enable them to do so: 'Considerable numbers of the native Hyena prowl from the mountains near this, (a grazing farm belonging to a gentleman in Hobart Town,) in quest of prey among the flocks, at night. The shepherd is therefore obliged, during the lambing season, either to watch his flocks during the night, or to enclose them in a fold. One of these animals had just been caught before the party passed. It measured six feet from the snout to the tail. The skin is beautifully striped with black and white on the back, while the belly and sides are of a grey colour. Its mouth resembles that of a wolf, with huge jaws, opening almost to the ears. Its legs are short, in proportion to the body, and it has a sluggish appearance; but in running, it bounds like a kangaroo, though not with such speed. The female carries its young in a pouch, like most other quadrupeds of the country.'

I have seen in Van Diemen's Land, an ill prepared specimen of what appeared to be an hedgehog. In size it resembled the common species; but the spines were arranged in patches, having a longer one than the others, protruding from each of these centres. I understood from respectable authority, that it likewise possessed the pouch.

The wombat, which I have never seen, has also this pouch; but the following animals do not appear to be similarly constituted; viz. the wild dog, the bandecoot rat, and an animal which is named the devil. There is no evidence to prove the existence of a dog peculiar to the country; the wild ones, however, which have been probably imported, and have nothing to distinguish them from European varieties, are extensively dispersed, and very injurious to the flocks. The bandecoot is a large species of rat, which inhabits the decayed cavities of those trees that are lying on the ground. Its fur is soft; its flesh is said to be well flavoured, and being very generally distributed, it constitutes a considerable portion of the food of the natives of both countries. With regard to the last

"If the animal just described, be identical with the one now submitted to the Society, it must have been a larger individual. When the writer in the Almanack states, that *his* animal measured six feet from the snout to the tail. I conclude he means, from the snout to the end of the tail. The newly killed animal too, it will be remembered, would measure longer than an ill-prepared dried specimen like this one, which measures from the snout to the end of the tail, four feet six inches. The colour of the animal is between a greyish and a tawny. The character and the head is wolfish and carnivorous, with a very deep mouth. The neck of the specimen appears longish, and unsymmetrical; but I attribute that to the mode in which it has been stuffed; and it is proper to observe, that the specimen was *presented* to Dr. Henderson—for if he had had an opportunity of preparing it himself, it would have offered, I doubt not, a very different appearance. The legs too, especially the hinder, have suffered in the preparation. Extending from about the middle of the dorsal region to the insertion of the tail, you will observe a succession of black transverse stripes, from the appearance of which, I presume, and its prowling habits, the creature has obtained its name of the V. D. Land Tiger. You will further observe, that it has got the marsupium or ventral sac, peculiar to a certain class of animals, hence termed *Marsupiata*. This part of the animal, however, on account of the imperfectness of the preparation, does not admit of satisfactory development. It has got five clawed toes in each fore-foot; hard, horny, and somewhat blunted, as if intended partly to dig or burrow. The hind feet have got four-clawed toes each; the claws being rather longer and sharper than those in the fore-feet. The teeth, in the specimen before us, are as follows:—Incisors $\frac{8}{8}$, small and regular, with the exception of having a worn appearance, as if they had gone through hard service. Canines $\frac{1}{1}$, large, cheek teeth $\frac{11}{11}$, or twenty-two teeth in each jaw. It is evident, at a glance, that the creature is neither a tiger nor a hyena, as its popular name would lead one to suppose. A reference to *Griffith's Animal Kingdom* shows, that it belongs to the family of the *Dasyuri*, which, according to Cuvier, is the fourth of the *Carnassiers;* being, says the same authority, distinguished from the *Sarigues* by having *two*

animal, the devil, I am not perfectly satisfied that it really does not possess the pouch, and I have only seen one mutilated specimen of it. It seems to be a species of polecat, and is about the size of a large cat, but with shorter legs; it is very powerfully formed, and its canine teeth are strong and protruding. The colour is black, and from the skins I have seen, there must be three white stripes on its back. The tail is nearly destitute of hair, except towards the tip, where bristles, about an inch in length, originate from each side. It is peculiar to Van Diemen's Land, where it is more destructive to the young flocks than any other carnivorous animal. Like the polecat, it merely sucks the blood of its prey.

The noblest and last of the mammalia, whom Europeans have found inhabiting these countries, is man; and however degraded his general character may appear to us, he still seems to mark as from a distinct point, the relative progress which other nations have affected in civilization and improvement. When two species of any other animal are found in different situations, slightly varying from one another; and when brought again into the same

incisors and four cheek teeth less in each jaw than the latter. Thus there remain to them only *forty-two* teeth. Their tail is described as covered all over with long hair, (from which their name is derived, δασυς and οὐρος,) and it is not prehensile. In the specimen before us, the tail is covered all over with hair, but that hair is not long. The *Dasyuri*, we are further told, inhabit New Holland, and live on insects, carcasses, &c. sometimes penetrating even into the houses, where their voracity render them very unseasonable guests. Eight varieties of the *Dasyurus* are specified in *Griffith's Animal Kingdom;* and of these the specimen now before us would appear to approximate most to the dog-faced or *Dasyurus Cynocephalus*, which is described as yellowish, brown or grey, as large as a wolf or dog,—crupper marked with transverse black bands and tail compressed. Accompanying is a faithful copy of the drawing of the dog-faced *Dasyurus*, as given in Griffith; but the epithet *cat-faced* would be much more applicable to it, I submit, if like the plate. The back stripes and the ears, however, identify it as the same animal, or at any rate a variety. The attitude, I am rather inclined to think, is fanciful. But there is another difficulty; the *Dasyurus, in Griffith's Animal Kingdom*, is stated to have cheek teeth $\frac{4}{4}\frac{4}{4}$, whereas the specimen under consideration had cheek teeth $\frac{3}{3}\frac{4}{4}$, or 12 in the upper jaw, and 14 in the lower. It is also stated in the same work, as a distinction among others, between the *Sarigues* and the *Dasyuri*, that the former have in all fifty teeth (50), and the latter only forty-two (42),—the specimen before us, however, has in all 44 teeth. Looking, then, at the difference between the shape of the head, especially in the cut of the mouth, between the animal before us, and the figure and description of the *Dasyurus Cynocephalus*, as represented and described in Griffith, is there not reason to suppose this one to be an undescribed variety? In that case, by way of convenience, and looking at its wolf-like expression, we might distinguish it as the *Dasyurus Lucocephalus*. I leave the subject, however, in good hands, and have to apologise for these hasty and inconclusive notes; but I thought, defective as they are, that they might, perhaps, excite those who are better qualified to a closer examination of the subject.

situation, gradually assimilating, and without difficulty forming hybrids, we are apt to consider them as having originated from a common stock; but that their characters have been subsequently modified by food, climate, or any other peculiar circumstance. It has already been mentioned, that the country-born offspring of Europeans evince a tendency to a fairer colour of skin, eyes, and hair, than that possessed by their respective parents. Now we can observe no such corresponding tendency amonst the aborigines; but rather the reverse. These are all of a dark copper colour, which is rather found to be increased by the cold produced by a higher latitude. The inhabitants of Van Diemen's Land are slightly darker-coloured than those of Port Jackson; and considerably more so than those in the interior of New South Wales, where greater extremes of temperature are prevalent. It is likewise reported, that there are certain tribes, considerably to the Northward of these, who possess a much fairer complexion than even the inhabitants of the Indian islands.

The aborigines of Van Diemen's Land, are however, distinguished from those of New South Wales, by their possessing the woolly hair of the African; but at the same time, the form and expression of the countenance so resemble those of the former country, and their manners and customs so nearly approximate together, that one cannot but feel convinced, that both these countries, must have been indebted to similar sources, for their coloured populations. Reasoning from the above, and admitting a slight resemblance of the natives of Van Diemen's Land to some of the Cafre tribes on the Mozambique coasts, it seems to me more probable, that this peculiarity in the hair, rather originates from difference in food, climate, &c, than from the intermixture of the African, with the aborigines of New South Wales. This is likewise somewhat supported, by there being no tribe, or individuals composing part of a tribe, in Van Diemen's Land, who have been hitherto found with the smooth black hair of the Asiatic.

We possess likewise some evidence, even amongst the human race, which would rather tend to indicate, that when similar species whose distinctions solely depended upon climate, &c., were again brought into favourable situations, they would each evince a disposition to approximate to one another. The Portuguese is a hybrid, betwixt the European and the Moor; but in consequence of climate, and repeated intermixture with the former, they retain scarce any resemblance to their African progenitors, while continuing to reside in their native country. They have however been imported into the southern parts of Hindostan, where, after intermixture in the first place with its natives, they have remained in certain places a distinct tribe, intermarrying only amongst themselves, for nearly two centuries past. The

consequence has been, that they have not only become darker-coloured than the natives of that country; but their countenances have also assumed as strong a similitude to the African as to the original inhabitants of Hindostan: even their hair, in some cases, would appear to be similarly affected. With regard to the facility of forming hybrids, I should be inclined to state from my own observation, that the offspring of the pure-blooded European, intermixing with the pure-blooded natives of Hindostan, did not average above one-half of what would be produced by a similar number of the inhabitants of either of their respective countries; and although I am not aware, that the same remark can be extended to Africa, I have reason to believe, that it will be found perfectly applicable, both to New South Wales and Van Diemen's Land.

Considerable interest has already been excited regarding the secondary origin of the natives of New South Wales and Van Diemen's Land, or the country from whence these savage tribes have formermerly been imported. This has been in consequence of the difference in their habits and customs, from the natives of the surrounding islands; from the decided peculiarity observable in the other animal and vegetable productions; and lastly from their being supposed the only people who entertained no distinct idea of a being superior to themselves. While remaining at Wellington, I enjoyed a favourable opportunity of observing a small tribe of natives, who inhabited that valley; and I was accidentally enabled, at least to satisfy myself, regarding the question of their previous extraction. I was one day taken to see the place, where a ceremony is performed on occasions when the youths, at the age of puberty, are transferred from the women and children, to associate in future with the men. During this, one of the upper front teeth are extracted, and the novice is afterwards permitted to wear a slight girdle, composed of narrow stripes of the oppossum skin.

The portion of the valley, selected for performing this sacred rite, was beautifully situated, in a secluded part of the forest, near the rich green banks of the river Macquarie. A long straight avenue of trees, extended for about a mile, and these were carved on each side, with various devices, most of which were apparently intended to represent serpents, in all their different attitudes. On one extremity of this, the earth had been heaped up, so as to resemble the gigantic figure of a human being extended on his breast; while through the whole length of this sylvan temple, a variety of other characters were observed to be rudely imprinted upon the turf. One of the first of these which I examined, appeared to bear a much stronger similitude to the lingen of the Hindoo, than I conceived could probably have occurred from accident; and my attention having been thus arrested, I now recognised se-

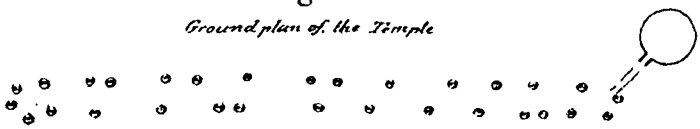
veral other hieroglyphics, which seemed also intended to represent, under different forms, the same symbol which that people have selected, in order to indicate the creative attributes of the Divinity.

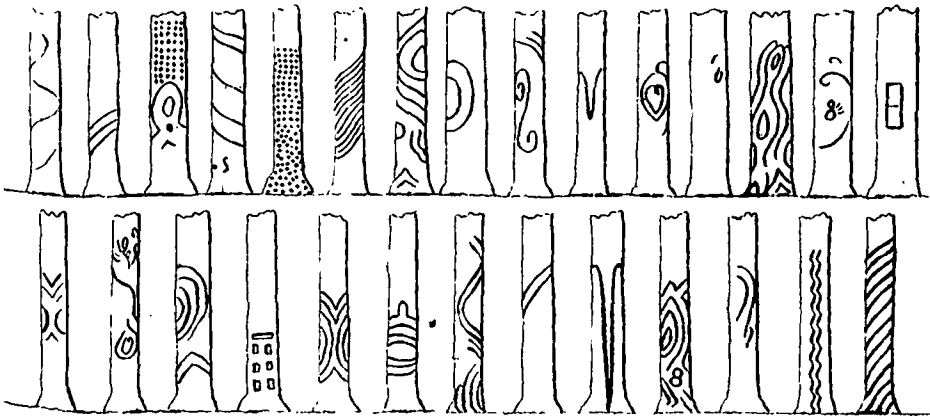
At the lower extremity of this, a narrow pathway turned off towards the left, and soon terminated in a circle, which was enclosed by a wall, composed merely of the loose earth. A ground-plan of this, together with copies of most of those devices which were observed on the trees, may be examined in the accompanying Plate iii. *Fig.* 1. The peculiar construction of the former, tended in a great measure, to confirm me in my previous opinion; although it still seemed to require stronger evidence, completely to substantiate the fact. On my return, several of the natives were questioned as to the nature of the ceremonies performed at this place; but none of them would give us any satisfactory intelligence, evincing considerable repugnance, to our even making any allusion to this particular subject. Amongst these a koree or doctor was applied to, who assured us that they were all prohibited from conversing regarding any thing connected with those rites; but added, that their king, who would arrive at Wellington in a few days, possessed a discretionary power to communicate such information as we required. One of the two drawings of natives of Wellington, which has been attached to this work (see Plate i.) for the purpose of delineating the general description of their features, was sketched by me from this informant; whose name was Marinbilly, and who was said to officiate in the capacity of wizard, as well as doctor. On the arrival of the king, having first taken him apart from the remainder of his subjects, and propitiated His Royal Highness with a couple of inches of negro-head tobacco, we cautiously renewed our former inquiries. Upon promise on our parts of secrecy, as far as the other natives of that part of the country were concerned, he agreed to accompany us next day to the place, for the purpose of explaining the interpretation of the symbols; assuring us, that should the neighbouring tribes discover, that he or any of his people had disclosed their secrets to the uninitiated, they would immediately combine and probably extirpate his whole race.

Having returned on the following day, we in the first place inquired of him the meaning of the circular enclosure; as well as of those other characters which had previously attracted my attention. His reply, which was communicated both in broken English and in his own language, was clear and unequivocal; serving completely to convince me, that the lingen, in its original interpretation, still composed part of the worship of the natives of the country. Although it probably proceeded from accident, it is perhaps deserving of observation, that the words which he em-

Fig. 1

Ground plan of the Temple





Devices carved on the trees at Wellington.

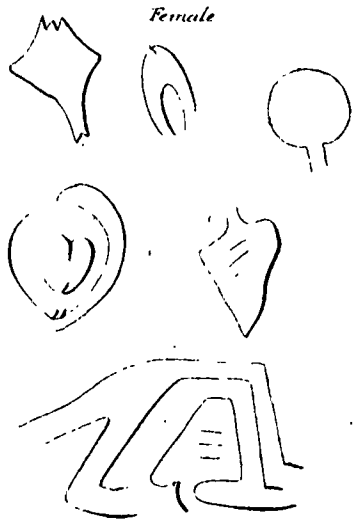
Fig. 2.

A Boat used by the Natives at Wellington.

Womroo
a war Instrument

Male

Female



Some ground Figures.

T. Black. Asiatic Lith. Press.
N° 6/2 Chowringhee.

ployed to explain his meaning in the language of his tribe, would have expressed nearly a similar signification in the one which is commonly spoken in Hindostan. Having now conducted us to the place where we had before remarked the figure of a human being lying extended on the ground, he endeavoured to explain to us their rude system of mythology. We experienced, however, great difficulty in comprehending the import of what he intended to communicate; and still more so, in combining the different materials after they had been once collected.

Piame is the name of the god of the black people of New South Wales; he is the father of their race, and formerly appears to have sojourned amongst them. Mudjegong, on the other hand, is an evil spirit, who after having derived his existence from Piame, declared war upon him, and now endeavours with all his power to frustate his undertakings. The offspring of Piame were numerous; but the whole, with the exception of two, were destroyed by Mudjegong, who converted them into different wild animals. A number of the devices on the trees are intended to represent these transmigrations; such as the snakes, the oppossum, the emu, the kangaroo, the cockchaffer, &c.; while others were stated to indicate the forked lightning, warlike instruments, and falling meteors. The evil spirit seemed to be described under the form of the eagle-hawk; an imitation of his erie forms a conspicuous object at the upper extremity of the grove. Our informant, however, was unable to give us the correct meaning of each device individually; and at length candidly confessed, that the greater proportion had completely escaped his recollection.

The two remaining children were named Melgong and Yandong; who were also the progenitors of the present inhabitants. Piame, having initiated one of these in the mysteries of their religion, having directed him likewise to extract a front tooth from each of the young men, and inculcated the concealment of their sacred rites from women and children, proceeded towards the north; but he is again expected to return at some very distant period. The figure before mentioned represents him in a recumbent position, as he is at present considered to be asleep. There is however a tradition, that he once awoke, and having turned himself upon his side, the flood-gates of the salt ocean were immediately thrown open, and the hills and valleys disappeared beneath the rolling waters. It is also reported, that when he next awakes, a similar catastrophe may be expected.

Previous to performing the ceremony of initiating the young men, the various devices are carefully renewed, and all the women and children are removed to a considerable distance; indeed they do not appear to be ever permitted to approach the vicinity of this consecrated temple. The candidate is first conducted to

the upper extremity of this, where while the points of spears are directed towards him, he is made to promise, never to disclose the secrets which are about to be communicated. He is then instructed in their mythology, I believe, by the koree; and while conducting down the long line of trees, the meaning of all the various symbols are particularly detailed. During the whole of this ceremony, the spears continue to be poised at him; and the strongest imprecations are employed against the individual who shall dare to break his vows. At the same time, certain dramatic representations would appear to be performed, although we could neither comprehend their manner of acting nor their allusion; the principal one however is emblematic of the destruction of the eagle-hawk by Piame. The youth is now brought into the circular enclosure, where being seated on a piece of bark which is placed upon the wall, he becomes regenerated by having an upper front tooth rudely hammered out with a stone. He is afterwards sent into the woods, where he remains a certain number of days, secluded from all his brethern. During the interim, he is fed privately by one of the seniors, who is not however permitted to see him; and on his again rejoining the tribe, he assumes the girdle of oppossum's skin, and carries the spear and other war-arms like the men.

Each tribe has a similar grove peculiar to itself; and there is no custom more general, throughout the whole of this country, than the extraction of one of the front teeth from the males. It is not however practised in Van Diemen's Land, and there have been several other places discovered, where it seems to have been likewise forgotten. A common belief prevails in both countries regarding the existence of inferior spirits, who conceal themselves in the deep woody chasms, during the day; but who wander forth after dark, with power to injure or even to destroy. Their rude encampments are frequently alarmed by these unearthly visitors, whose fearful moanings, are at one time borne on the midnight breezes, and at another are heard mingling with the howling tempest.

There is a strong similitude observable in the size and symmetry of the natives of New South Wales and Van Diemen's Land, to the Asiatics who are found in their vicinity, to the northward of the equator; and I have often seen Hindoos of the lowest cast, whose expression of countenance nearly resembled some of the aborigines, inhabiting the interior of New South Wales. The latter differ greatly from the natives of New Zealand, who are taller, as well as big and a much more muscular and athletic race. Their colour is also lighter; while the expression of their countenance strongly assimilates with that of the Tartar; indeed they are by no means unlike some travelling parties of these, whom I have met with, amongst the lower mountains in Bootan.

The various languages of New South Wales, are generally soft and pleasing ; a considerable proportion of the termination being similar to those of the Malay. More to the Northward however, I understand, they make use of a number of expressions, which are generally current on the continent of India. Their tribes are thinly distributed over the country. The numbers composing one of these, may vary from thirty to several hundred individuals; and it is even stated, that some have been discovered, consisting of upwards of a thousand ; still, from observing the proportion, in which food is commonly distributed, I should be inclined to require further corroborative evidence of the authenticity of the report. The total number in Van Diemen's Land, are considered to amount to about 600 ; who are divided into four or five different tribes. This would therefore give a proportion of one to 25 square miles ; and I should imagine, that the same will be found a tolerably correct average, for the purpose of estimating the numbers of the coloured population thoughout the whole of New Holland.

Although none of the tribes construct houses, or have any settled place of residence, the limits of their respective hunting grounds appear to be distinctly recognised. Each tribe has a King, who is in most cases hereditary ; but in certain parts of the country, he is selected on account of his strength or prowess ; and he is generally distinguished from the others, by the numbers composing his seraglio. No external demonstration of respect is paid to him ; still, he would appear to possess considerable influence in their internal government; and he is always considered as their leader during battle. The females are even in a more degraded condition than the men, and are generally treated as the property of the strongest. They eat separately in their encampments, and remain apart during the day. Oppossums' skin rugs, which are used for sleeping on, as well as for carrying the children, are in some places very neatly prepared by them; being sewed together by the tendons obtained from the tail of the kangaroo, and having various chequered figures, curiously scratched upon their inner surface. The affection of the mother towards her offspring is by no means powerful ; and she will frequently either throw her infant away, or put it to death, rather than be troubled with providing for its support.

The natives in the vinicity of Wellington bury their dead ; selecting for this purpose, a spot near a clear portion of the forest. Having prepared a sort of grave. the deceased is placed in a sitting posture ; and previous to returning the earth, he is carefully surrounded with the softest grass. A symbol is afterwards carved upon the nearest tree, which serves to indicate the particular tribe to which the individual may have belonged. In some parts

of the country, they have retained the Hindoo custom of burning their dead; and this is understood to have been likewise practised, amongst those at Port Jackson when Europeans first arrived there, but it is now completely discontinued. The natives make use of a great number of the vegetable productions as food; yet although they are capable, in common with the inferior animals, of subsisting upon a variety of substances, in the interior of New South Wales, they are frequently subjected to great misery, during a continuance of severe weather; and there is little doubt, that in certain places, they will not hesitate, under such circumstances of distress, to sacrifice and devour their own children.

The natives entertain a superstitious dread, of entering any of the caves in the limestone rock. During cold or rainy weather they protect themselves by sheets of bark placed opposite one another, of sufficient dimensions inside to admit a single individual; and these being left standing, indicate for a considerable time afterwards, the situations of their several encampments. In New South Wales, they employ canoes in order to crossing the deep rivers; constructing them differently in different parts of the country. Those I have seen at Wellington, were merely fresh single sheets of eucalyptus bark, carefully taken from a twisted tree, and prevented from rolling up by two slight boughs which are inserted in order to stretch them, Plate iii. *Fig.* 2. They are generally about six feet long, by two and a half in width; the head is made round like that of a boat, and is higher than the stern which requires to have a low wall of clay, to prevent the water from rushing in. The passenger must sit on his knees, perfectly motionless; while a native boy by means of a spear, guides this primitive boat, with considerable dexterity. Accordingly they generally arrive in safety at the opposite side; and I myself have made four or five voyages in them, and was so fortunate, as only to be once upset.

Their principal weapon is the spear, which is commonly six feet in length, and about the thickness of a man's finger. Straight boughs of several descriptions of shrubs, are selected for the purpose of preparing them; and these, after being dried to hardness over a fire, and carefully pointed, require but little strength, in order to inflict a very severe wound. I have frequently heard of instances of the extraordinary accuracy, with which a native will strike with these, an object placed at a considerable distance; but have never had opportunities of witnessing any similar examples. To the Northward, they employ a sort of sling, made of the grass tree, for the purpose of throwing the spear; and along with this weapon, the natives of both countries, always carry some other description of arms, to be used in close combat. The latter vary extremely, in different parts of New South Wales. All the natives of Van Diemen's Land however, carry a throwing stick

about two feet long, named a wady, and which they are in the habit of employing for the purpose of despatching a wounded victim.

I happened to be at Wellington during the meeting of two tribes, apparently bent upon hostilities, and expected to have been a witness of one of their assaults. The Wellington Blacks having, in defiance of the national law, audaciously hunted Emus within the territories of a more westerly tribe, the latter came to demand reparation for the insult offered to their sovereign's authority. They arrived in small bodies, attended by their women, and encamped at a short distance from their opponents, as the truce had not been broken hitherto by either of the parties. A few of both sexes wore blankets, that had been given them by the Government; while all the remainder were completely naked. Each of the men had their heads encircled by silver-like fillets, composed of the tendon of the kangaroo, curiously woven; and these were decorated with the yellow plumes of the white cockatoo, so as to give to one of these ornaments a striking resemblance to a coronet. They carried in addition to their spears, a small wooden shield, and a womroo. The last is a singular weapon, and seems to be peculiar to this part of the country. In size and shape, it resembles the blade of a sabre, imitated in wood, and deprived of the handle; both ends are however similarly pointed, and the general curve possesses a considerable convexity. It is thrown, with the concave side towards the object, and is made to revolve horizontally. It is generally made to strike the ground, at about ten or fifteen yards distance; after which it acquires an increased velocity, and having attained a tolerable elevation, it assumes a curved direction backwards and downwards, not unlike the irregular course which we may sometimes observe an armed rocket describe. It is capable of inflicting a severe wound, while in consequence of its irregular motion, it is far from easy to ward off its effects, by interposing the wooden shield.

In the evening, the westerly tribe had a Korobery, or war dance. The men prepared themselves for this festival by painting their bodies with regular lines and figures, by means of a sort of pipe clay; each person, seemingly, according to his own peculiar fancy. The women were the musicians. They were seated by a fire, a little apart, and sung their native airs, beating time by striking dried skins, which each person held stretched between the knees. The different tunes perfectly corresponded with those which are at present common throughout Hindostan; evincing, in this respect, a much nearer resemblance to the inhabitants of that country, than could be now recognised amongst either their present language, or their customs. The Wellington

tribe having prepared a blazing fire for their hostile visitors, the latter commenced their various war dances. These were performed at intervals; one was named after the emu, another the oppossum, &c. and all of them, I suspect, must have had some reference to the figures in the grove, which I have already attempted to describe. Issuing forth, with a shield in one hand, and a womroo in the other, they formed in rapid succession a variety of figures, in which certain of the habits peculiar to the animal, the genius of the dance, were curiously represented. Sometimes slightly bending their knees, they made their quiver in unison with the music; sometimes brandishing their war-arms, they appeared to anticipate the powerful excitement of the approaching combat.

This wild and novel scene was particularly suiting. The night was dark and cloudy; while the broad flame, which illuminated the forest, threw a lurid and flickering glare upon their strangely distorted figures; the magic interest was likewise increased by the reflection, that these mimic representations were to be the prelude to a savage and deadly contest. We were however mistaken, the dance was soon terminated; and next morning it was announced that negotiations having been entered into, the subject of dispute had been by some means amicably adjusted. On the same evening, another Koroberry was celebrated; but the novelty had passed away, and the interest excited by associations of the future, could no longer be called into existence. The men went through their different evolutions with languor, if not with reluctance; and there were several who could not even be induced to take a part in the festival. Next day, the whole tribe returned to their own territories, in the same disorder as they had arrived.

The character of the natives, I conceive, has been correctly appreciated; as they appear to have fully deserved the reputation they have acquired of ranking the lowest of the nations in the order of civilization. At a distance from European settlements, they are generally treacherous in the extreme, and without the means of enforcing respect; it is always hazardous in such situations for an individual to place himself within their power. Like other savages, under a free government, they are not naturally addicted to falsehood; although they speedily acquire that habit, in addition to many other similar qualifications, after their intercourse with the European convicts. Owing to the same cause that the blind or deaf evince a superior degree of sensibility in their remaining faculties, the natives display a particular acuteness, wherever they are obliged occasionally to exert themselves; whether that may be, to avoid a danger, to ensnare an enemy, or to procure necessaries for subsistence. They will thread their way through all the intricacies of the forest; they will readily

detect the haunts of their usual game; and will keenly pursue the trail of their friend or enemy; but they are, at the same time, fickle, wayward, and indolent; and may be more frequently observed, beside their fires, perhaps, compressing their stomachs to alleviate the gnawings of hunger, rather than exert themselves, in order to satisfy their appetites.

Notwithstanding their present degraded situation, however, there is no evidence of any inferiority in the primitive organization of the mental faculties of the infant. True, it is found that when a native child, after having passed a very few years with its parents, is attempted to be subjected to the restrictions of civilized society, he will probably embrace the first favourable opportunity of returning to his former companions. Still this fact only proves the powerful effects of first impressions, and the deep-rooted consequences resulting from the earliest education, indeed it might be productive of advantage to the future generation, were the information derived from this solitary instance more deeply appreciated. As might be anticipated, from a perusal of the first part of this work, the present subject has hitherto been but little investigated; it has, however, I believe, been satisfactorily proved, that the half cast child between the native and European, when subjected to similar and early education, evinces no degree of inferiority to the offsprings of the pure-blooded European, in the gradual development of his several mental faculties.

Experiments on the Temperature of the Ocean,

made during a voyage from N. S. Wales to Bengal.

[Referred to at p. 129.]

Date. 1831.	Latitude.		Temp. of air.	Temp. of sea.	Hour of Experiment.	Remarks.
Jan.	South.					
16	31	32	69	68½	12 A. M.	Wind S. E.
17	29		73	70	9 30 do.	S. E.
	28		71	71	6 P. M.	Ditto.
18	27	30		71	ditto.	Ditto.
19	26		73	71¾	10 A. M.	Ditto.
20	25	14		71	4 P. M.	Ditto.
	23	21	74	71¼	9 A. M.	Ditto.
21	22	16		75	7 P. M.	Ditto, enter the Tropics.
	21	55	74	75	16 do.	Sudden rise, continued throughout the series.
	21	8	75	73	8 A. M.	
22	20	28	75½	75	2 P. M.	S. E. wind continued. Sighted the Cocos.
	19	54	75	74	7 do.	
23	18	23	76	75	9 A. M.	
	17	54	77	76	2 P. M.	
	17	16	78	76	10 P. M.	
24	16	21	79	76	8 A. M.	
	15	48	79½	78	2 P. M.	
	15	25	79½	78	6 do.	
25	14	4	80½	79	8 A. M.	
	13	32	83	79	2 P. M.	
	12	36	82	79¾	11 do.	
	12	14	82	79¼	8½ A. M.	
	10	51	83	82	10 do.	
26	9		82	81¾	10 do.	Rain reduced temp. of air to 76.
27	8	9	83	82	5½ P. M.	Did not affect the water.
28	7	38	82	81½	10 A. M.	
	6	18	83	81	9½ P. M.	N. E. monsoon.
29	6	40	83	81¾	A. M.	
	4	27	83½	82	10 A. M.	
30	3	20	82	81¾	9 do.	
31						
Feb.						
1	1	24	81	79¾	8 do.	Rainy.
		54	82	81	1 P. M.	
			82	81	11 do.	
	North.					
2		58	80	81	10 A. M.	
3	3	31	81	81	8 A. M.	
	4		81	82	1 P. M.	
4	4	17	82	81	11 A. M.	Coast of Sumatra in sight. N. E. Trades.
5	5	6	82½	82	10 do.	10 miles from Sumatra.
6	6		81	81	11 do.	Achien Head.
	6		82	81	10 A. M.	Ditto.
7	7	40	82	81	ditto.	Nicobars.
8			82	80	ditto.	
9			83	80	6 P. M.	
	8	42	82	81¼	1 P. M.	Ditto.
	8	50	82	81¼		
10	9	48	81	79½	10 A. M.	Bay of Bengal.
11	11	3	81	79	11 do.	Ditto.
12	13	7	81	76½	ditto.	Ditto.
13			80	76¼	3 P. M.	E. wind formerly now Northerly.
14			78	76	10 A. M.	
15	15	7	78	76	7 P. M.	
	15	52	80	77	10 A. M.	320 miles from land.
16	16	49	78	78	8 do.	S. E.
17			81	78½	10 do.	S. E. Soundings.
18			78	79	8 do.	N. E. ditto.
19			75	76		Ditto.
20			76	76		In the Hoogly.
21						

A

LETTER ON NOMENCLATURE,

ADDRESSED TO

M. QUATERMERE DE QUINCY,

PERPETUAL SECRETARY

TO

The Institute of Paris.

Preliminary Observations on the present state and arrangement of Botany.—Properties of a determinate Nomenclature; and advantages resulting from an Ideal Chain.—Natural Arrangement; General Theory for arranging known and unknown Specimens; Neutral Division, with other methods for simplifying Classification, and rendering it determinate.—Alphabetical Arrangement, and a more minute examination into the present state of Botany.—Theory of Nomenclature, and its application to the above Science.—Application of the foregoing general principles, as they might affect Legal Decisions, Mineralogy, Colors, and Comparative Anatomy.

To M. QUATERMERE DE QUINCY,

&c. &c.

SIR,

May I beg you would do me the honor, to lay before the Institute of Paris, the present communication 'On Nomenclature,' trusting, that it may not only meet the approbation of its members; but that it may likewise be in their power to aid me in carrying a portion of my views into execution.

The brilliant revolution of 1830, has awakened the warmest feelings of interest and sympathy, amongst the well-wishers of our species. May its example be extensively adopted by other nations, so as to produce a gradual and progressive increase of liberty, in proportion to their degree of civilization; and may its influence be displayed in the rapid and general diffusion of useful knowledge, as the only direct means of improving the wealth and happiness of mankind.

The proud consequences to science, which I ardently anticipate from the period of this your new era, has induced me to submit

my offering to your respected assembly, in preference to the learned societies of my countrymen; and I feel confident, that it will not be less favorably scanned, for having been presented by an obscure and fameless foreigner. I must however confess, that my determination in this respect has been likewise actuated by more selfish motives. In transmitting my proposals to Great Britain, I could entertain but faint hopes of their favorable reception. The authors of the present day have invariable opposed innovations in nomenclature, as leading to endless confusion without proportional benefit. I must not therefore pretend to any merit, in submitting myself to the verdict of judges whom I conceive to be impartial, rather than to those whom, I am led to believe, are previously inimical to my designs.

With what expectation of success could I submit these to the chief and most influential society of my country? They, by whom it is composed, have ever evinced a strong disinclination to change. Wedded to the opinions of the ancient or the great, it requires, I fear, more than the evidence of truth, unassisted by time, to overcome their firmly rooted prejudices. I am not a member of their body, nor initiated in their politics; my voice would consequently sound feeble amongst those who at present exercise control over the humbler contributors to science; but who are themselves obliged to court the patronage of the noble and illustrious, around whose powerful stem the literature of England must still be content to entwine itself, in order to support its long and well-earned reputation.

The world is indebted to France, for giving birth to a Lavosier, the honored father of modern Chemistry. His introduction of a new and improved arrangement, in addition to his own successful exertions, has suddenly exposed an inexhaustible mine of nature's richest treasures; whose various gems are eminently calculated, equally, to increase the happiness and alleviate the miseries of mankind. Impressed therefore with the conviction, that your countrymen will long continue to venerate the memory of their benefactor, whose name is closely identified with many interesting national associations, I trust I may be excused for anticipating, that my proposals will be received by them with a favorable bias, when their object is understood to be, the extension of a similarly effective arrangement, to all the other sciences connected with Natural History.

Were it not that every reform, in the general nomenclature of the sciences, has been deprecated by some of our highest authorities, I should otherwise, perhaps, have deemed it useless, to adduce a single argument to prove its present urgent necessity. It is only, I should conceive, requisite for this purpose, to review in a cursory manner, the existing state of the science of Botany, and

to trace the progress of the student who may be desirous of rendering himself familiar with its details. The total number of plants hitherto described, may amount to little less than 100,000, each of which have received distinct and independent names, all of them completely arbitrary, frequently absurd; and having only in rare instances, the most distant reference to the object designated. In the first place, therefore, he must become intimately acquainted with the language of its definitions. Now this is extensive and minute, without possessing even the redeeming quality of accuracy; while its attainment, so as to enable the individual to reduce it to practice, is only to be acquired after a long, patient, and monotonous application.

Having thus overcome the first obstacle, by making himself acquainted with the language of description, let him commence applying the art he has acquired, by ascertaining the name of a given specimen, in any of the General Systems of Plants. Although an adept in this artificial science, still the labor will be far from inconsiderable, and it is a melancholy reflection, that had the individual no other mode of rendering himself familiar with all the registered plants, a life-time would be barely sufficient to accomplish his weary undertaking. He has now to commit to memory the whole or at any rate a large proportion of the plants described. These I have stated to amount to 100,000; but let him content himself by registering in his memory only 50,000 of these. The names, we have likewise mentioned, are arbitrary and independent, having no clue or chain to connect them one with another. He has consequently to surmount a similar obstruction as the acquirement of a new language; and since the simple words, composing that of the English, may scarce amount to 20,000, a rough estimate may be formed of the labour necessary, in order to associate each individual name with its respective specimen.

But let us endeavour to appreciate the value of the information thus acquired. The name has now been found; it may be one of the Amherstia's, perhaps a Johnesia, a Parkinsonia, or a Wallichia. What is at length to be the proud reward, which is to compensate for all the student's previous application? He has indeed gained the benefit of an arbitrary sound, by which he may communicate to another an idea or fact regarding the given specimen, and therefore he becomes enabled to collect or distribute information, when, peradventure any may be obtained; but even this advantage, inconsiderable as it will be found to be, is not always acquired with certainty; for such is the imperfection of the art, that, having found a name for it in one system, and on examining some other, he will probably discover it there under a different mask. Should accuracy accordingly be required, all the different systems of foreign countries must be ransacked, when it is by no

means uncommon to find, that instead of one, it has already received a great variety of appellations. During, however, the whole of this tedious process, the student's attention has been merely occupied with the introduction to a science, the information it contains has not been investigated; indeed he scarce can be said to have yet started, in pursuit of the knowledge that may be inclosed within its limits. Yet, does not this constitute, almost the whole amount of the science of Botany of the present period? Has not a purely artificial system, deriving a portion of its reputation from the very difficulty attending its acquirement, silently usurped its place? And has it not tended to oppose a barrier to its progress, instead of accelerating its further advancement?

But let us somewhat alter the picture, and let the student be next placed in an unexplored field where he may discover, or suppose he has discovered, some hitherto unkown specimen. Elated with his good fortune, he will proceed to register its existence by the ordinary method; if it merely ought to be classed as a variety, he will feel a natural inclination, to claim for it the rank of a species; or should the species happily differ in the most minute point, from the arbitrary definition of the genus, he will derive an increased degree of satisfaction, in giving to it the rank of a new family. He will attach to this a name, probably similar to one of those already quoted, consecrating his protege with his own or his patron's designation, or distorting the language of the ancients, in order to envelope or mystify some indiscriminate idea, the offspring of his wayward fancy.

Now, I would ask, what has been the amount of benefit conferred upon science, through the efforts of this individual? It is evident that he has not contributed one iota of useful information; he has only aided in piling up more loose matter on a chaotic mass, the unweildy bulk of which has already tended to conceal from observation many important facts, which might otherwise have been rendered apparent. The real study of Botany, which is perhaps improperly denominated its Physiology, remains almost neglected. The facts, hitherto collected, are few, meager, and unsatisfactory; because those, who might have added to their number, are scared by this bugbear, from either attempting a better arrangement of its materials, or from investigating the properties of its contents. In opposition therefore, to the prevailing opinion, am I not fully borne out in the conclusion, that some improvement in Nomenclature is not only urgently required; but also, that until some great alteration takes place in systematic arrangement of Botany, every addition to the present register of specimens, unaccompanied by some useful information, has a decided tendency to obstruct the progress of science?

In former times, it was deemed expedient to veil from vulgar observation the secrets of science; but that period has however happily rolled past, and has given place, it is undertsood, to one in which a far more liberal policy is recognised. Still, if it is now considered desirable to render smooth the paths to science, in order that they may be more generally and advantageously frequented, why should we obstinately continue to employ foreign and dead languages, in names and terms, for the purpose of expressing or enveloping irregular ideas, the committing of which to memory can add nothing to our stock of information. One would almost conceive, when examining a list of these in any department of Natural History, that they had been intended to afford amusement to antiquarians who would feel a pleasure in elucidating abstruse derivations, rather than to assist the student who might be expected to possess, through means of their import, an easy guide to their recollection. It is, I am well aware, by no means easy to induce a body of men to depart from an established custom, but nothing, I conceive, would tend more effectually to check its progress, than a general translation of such names into modern languages, appending to them similar or any other terminations*. Their absurd and ridiculous appearance, together with the puerile ideas which would be thus suddenly unmasked, must undoubtedly cause many a man of genius to blush, for having introduced his contributions to the world under so disreputable an attire.

May not the different sciences exist and flourish, without converting their lists into obituaries of former generations, and thus rendering the names of those, who may perhaps have aided in their advancement, a present stumbling block to oppose their further progress? May not euphonious sounds be now laid aside as gaudy ornaments; or is abstruseness still indispensable, to shade its glare from the multitude, in order the more powerfully to excite their admiration. The reverberating Greek, or the manly language of ancient Italy, may delight the ear of the uninitiated; but it must in this instance be recollected, that like a tale often repeated, they speedily lose their pleasing effect; while every syllable of which such borrowed sounds may be composed, becomes a permanent burthen on the memory, serving in no instance, that I am aware of, to perpetuate in the mind a single necessary idea.

Although, according to Lavosier's system, we now possess a regular and simple arrangement of the names of chemical compounds; still, it does not appear that he has been able to extend his plan to the simple substances. Yet even amongst these one may trace some attempt at regularity: as, for instance, we are

* Thus, even Greenine and Blueine exhibit a somewhat contemptible appearance when examined in a native dishabile.

made aware, by means of the termination, that oxygen belongs to the order gases; and that potasium is a metal. In mineralogy again, the information communicated is even more slight; for one can only understand in consequence of the common termination 'ite,' that the substance forms a portion of the mineral kingdom. In no other branch, however, of Zoology, or Botany, is there the smallest attempt observable, of communicating any regual connected train of information; and in consequence of this, the word Parkinsonia, which now represents a genus of plants, would be likewise equally well suited as a name for a family of shells, a tribe of insects, reptiles, fish, birds, or quadrupeds.

The individual therefore, who endeavours to introduce a system of Nomenclature into either of the latter sciences, will possess one advantage in the commencement of his undertaking; for although he may have to surmount the inertium derived from general usage, he has not to overturn any established system, since there is none at present in existence. Now it will be readily admitted, that the greatest difficulty, in constructing a particular system of Nomenclature, will be met with in that science, in which the largest number of specimens have been collected. It may consequently be reasonably expected, that if such an arrangement can be successfully adopted to this science (Botany), it will require but slight modification, in order to render it equally applicable to all the others. Under this impression, my subsequent observations shall be directed chiefly to Botany, avoiding, as far as possible, the use of such technical phrases as might tend to restrict my remarks exclusively to that science. I shall therefore proceed to examine into the cause producing this distinction.

On a first examination of what might be requisite for the formation of a regular system of nomenclature, one would be apt to believe, that this desideratum had been fully supplied, *when an individual, who might in one country discover a new chemical substance, mineral, plant, insect, or other animal, should be enabled by means of the system to give to it the self-same appellation that another individual, having no communication with the first, would have assigned to it, had he discovered its co-partner in any other part of the world.* There are many, I doubt not, who will at once condemn such an attempt, however desirable its success, as being almost absurd, and its execution impracticable; I believe, nevertheless, I shall be able in the course of these pages to prove, not only that such a system was perfectly practicable, but that it could be likewise reduced to simple and easy regulations.

Besides, however, the particular property detailed in the above definition, there would soon appear to be other qualifications necessary, to sanction its general adoption, as well as to insure its

permanent duration. In order to appreciate some of these, let the student proceed to the examination of a Linnæan garden, for the purpose of making himself practically acquainted with the names and external appearance of the specimens contained in it. After having partially completed this lesson, we shall transfer him to another garden, where the same plants are indiscriminately combined, requiring him to give to each its respective appellation. He will frequently inform you that he recollects a particular plant, but that he has completely forgotten its name; in other words, he can describe to you its exact situation in the Linnæan garden, that it stands next such a plant, in such a class and order; but that every effort, to recall its scientific name to his memory, is altogether ineffectual.

Again, after having made himself familiar with the arrangement, external appearance, and scientific names of the plants, as above, let him, after a certain lapse of time, examine how far each of these respectively have remained impressed upon his recollection. He will still find, that he retains a more distinct idea, both of the situation in which the plant may have been studied, as well as its external appearance, than he does with regard to its name; and consequently, there must be, not only a greater difficulty in acquiring the artificial part of the science than the natural, but also, there must be a greater difficulty in retaining the same in the recollection, after this previous labour has been surmounted. Now, these remarks are found to be directly the reverse, when they are applied to chemical compounds. Here, although these already amount to a considerable number, the mind experiences but little comparative trouble in acquiring the names, and in permanently recording them in the memory; indeed, were their numbers tripled or quadrupled, I do not conceive that the difficulty of remembering them, would be by any means thereby proportionally increased.

In the first effort of memory, to register a name or fact, the mind is principally brought into action; and it proceeds to accomplish its purpose by means of a connected succession of ideas, similar to the progressive links of a chain. This is universally the case, however imperfect may be the dependence of each upon its predecessor, the train never being altogether interrupted. When the impression on the memory has been rendered thoroughly perfect, it no longer requires the aid of this ideal chain, or indeed of the mental faculties; for *memory can continue to act almost, or altogether, spontaneously.* Thus, after a child has been taught, by daily practice, to repeat a series of prayers, it at length requires during the act of recital, a very considerable effort of the mind, to direct it to the subject recited; on the contrary, the mind, during the interval, is almost constantly fixed upon a totally different train of thought; while the act of recital, whether internal or oral,

calls for no more powerful mental volition than would be necessary to continue the individual in the effort of walking.

When the several links in the ideal chain are similar, and their connection intimate, the mind experiences but little comparative difficulty in impressing on the memory an extensive collection of facts or names; whereas, when the reverse is the case, not only is the first labour greatly increased, but also the impression formed speedily becomes obliterated*. As examples of this, one may observe the facility with which an individual, after having acquired the nine numerals, can proceed to give names to continued numbers. He will be likewise soon enabled to continue such a series, as 2, 4, 6, 8, &c., or 3, 6, 9, 12, &c., without almost any mental effort; but what difficultly will he experience in reciting an extended series of irregular numbers, such as 2, 7, 5, 1, 3, 6, &c. and how quickly will it afterwards be forgotten. Now the first instance quoted, is applicable to the names of chemical compounds, whereas, the irregular series of numbers may be considered a tolerably just representation of the existing nomenclature of Botany, as well as that of the different branches of Zoology. There is here neither line of connection betwixt the specimen and the name, or betwixt one name and another. True, there are many amongst the latter, having reference to some quality inherent in the plant or animal; but it is likewise necessary, that the same property should proceed directly through the list of names or divisions, otherwise it is useless. Thus, if one animal receives its name from its color, another from its place of residence, and a third from its habits, there would be no direct chain of connection between these; and therefore the difficulty of first impressing them in the memory, and of retaining them after such impression has been accomplished, is consequently proportionally increased.

In this last case, the mind endeavours to supply the defect by an ideal chain of its own construction. Now, when the impression has either been incomplete, or has been obliterated by time, this is again required to assist it; and its purpose is still affected, by recalling the original succession of ideas, by means of which the previous impression had been first formed on the memory. It is, accordingly, during this process, that the simple and closely connected succession of ideas becomes chiefly important. In this instance, the chain presents itself to the imagination with but little

* When written characters were unknown, or little resorted to, historical facts required to be handed down to posterity by means of oral traditions; and in consequence of these having been delivered in poetry, posterity has been greatly indebted, both for their number and their accuracy. Poetry is less easily corrupted, and more easily recollected than prose, because when the impression on the memory has become partially obscured, it may be again refreshed, through the ideal associations afforded by the rhyme.

comparative mental effort, bearing along with it the necessary ideas, facts, or names; whereas, if the chain is composed of various qualities of ideas, unharmoniously connected together, it first becomes difficult, and then impossible, to reproduce either the ideal chain, or the facts or names which were required to be revived in the recollection. Hence, therefore, in addition to our first definition, *the name ought to be connected with the most simply constructed chain of ideas; in order to assist the mind, in the first instance, to impress it on the memory; and secondly to assist in reproducing the same impression, when time or accident has occasioned its being partially obliterated.*

In the commencement of a science, when but few specimens, compared with their total number, have been collected, it has always hitherto been the custom to arrange these, according to what is considered to be the order of nature or the line of creation. Now this is done when our acquaintance with the extent and qualities of its contents is most imperfect; accordingly, after the limits of these divisions have been defined, when a new specimen is discovered, belonging apparently to the order of nature, but not included in the definition, it becomes necessary, either to alter the definition, or to depart from this assumed natural order. The reverse of this must likewise occur, when the new specimen is included in the first definition, but does not apparently belong to the same natural order. In the latter case, it also becomes necessary, either to construct a new definition, or to class together incongruous specimens. Hence, in all those sciences similarly arranged, and in which the total number of specimens remain undiscovered, there is a continued call for a change of system, owing to the irregularities of the previous one becoming gradually more obvious and absurd.

It is evident, that classification is intended to register in the memory the different constituents of a given science; and for the reasons before assigned, we ought to endeavour to accomplish *this* by the simplest possible process. Let us suppose that an individual has arranged a new science; and that after a small moiety of specimens has been procured, he proceeds to classify them, as in the Linnæan system, according to what he considers to be the order of nature. In doing this, he must assume an evident absurdity; since he takes for granted, that he possesses a thorough acquaintance with the order in which the Divinity created these. On completing his task however, the new-formed system may look extremely beautiful, and its regularity may serve to excite the wonder and admiration of the world. But presently new specimens are discovered, tending to confuse this arrangement; others continue to follow, bearing proofs of the inaccuracy of first ideas, originating in confined views; and at length the whole becomes a

chaotic collection, in which even the inclination towards a natural order can with difficulty be recognised.

In this state, if we assume, that it is a second time arranged, according to what may be considered the order of nature, the same effect must again and again occur; because we have founded our system upon an evidently erroneous basis. There does not exist in nature any divisions such as we endeavour to establish by means of our definitions; but each constituent glides into its successor, by varied, yet scarce perceptible gradations. It is only at the commencement of a science that man conceives he has discovered such distinct breaks as to enable him to construct those pleasing but ephemeral systems. He seems to me, in this state, like the young mariner, when first hailing with delight the cheering view of a distant unknown shore. He begins by tracing a number of pale blue islands, distinctly and widely separated from each other; but, as he approaches nearer, others are observed gradually bursting from the horizon, and occupying the intervening spaces; until at length the whole are found to form one extended and unbroken coast.

Yet, were our faculties even sufficiently acute, so as to enable us to explore the order in which the Divinity has arranged a minute portion of the creation, it would not therefore necessarily follow, that this should be the simplest mode of becoming generally acquaintad with the constituents composing it. On the contrary, we are led to believe, that each portion of the universe depends so intimately on the whole, that without a perfect knowledge of that whole, any part studied separately, would, most probably, appear to us extremely intricate. But why should we be restricted to these visionary arrangements? Why can we not construct others, whose principles may be more accurate and their bases more durable, than those whose first striking beauty and regularity have hitherto tended to mislead our judgment?

Suppose that we were unfettered with a necessity of pursuing an arrangement according to any pre-supposed order, and that having a number of articles before us (say one million), each of which were possessed of qualities differing from the other, we should be required to arrange them so, that any particular individual might be selected from the whole, by the quickest and simplest process. Now, on reflection it will appear, that the above problem resolves itself *into dividing or continuing to divide, the whole quantity until the remainder be unity, by such divisors, that their sum total shall amount to the smallest possible number.* Accordingly, by continuing to halve, quarter, &c. the given sum, one million, that is, if we divide it constantly by 2, we arrive after 23 times division at unity as required. Here the sum total of the divisor amounts therefore to 46; whereas, were we to increase the divisor

2, by substituting a higher number, we should likewise proportionally increase their sum total, until at length the divisor equalled that of the dividend, when there could consequently be no division of the principal sum; in other words, no classification could take place.

We must accordingly select such permanent and intrinsic qualities, amongst our specimens, as shall divide our million, in the first place, into two equal parts; or if this cannot be accomplished exactly, we must approximate as near as possible towards it. The next step is to find a similar, intrinsic, and permanent quality, which shall bisect both this dividend and quotient; thirdly, another quality must be obtained, which shall again bisect both of these quotients and dividends; the same process being continued, or the nearest approximation made towards it, until either the quotient or remainder be unity.

This, therefore, being the nearest possible approach towards a simple and speedy classification, we are enabled by means of the problem to estimate the comparative states of perfection of the existing systems in the natural sciences. We have however assumed, that the whole number of the million are at once submitted to our inspection; but let us now suppose, that we have before us only a moiety of these, or say 20,000 of indiscriminately selected specimens. In this case, having discovered such a permanent and intrinsic quality as shall divide our present specimens into two equal parts, we are assured, by means of the doctrine of chances, that we likewise approximate, as near as in our power, towards bisecting the whole million. When, therefore, we are called on to arrange a science, in which only a moiety of the whole number of specimens has been discovered, it only becomes necessary to pursue the course described in the problem, in order that our resulting system may be rendered as durable as possible, considering the limited state of our information.

As we have observed, that the number 2 is the best divisor we can employ for the purposes of classification, I would beg, in the next place, to call attention to some of its peculiar properties. Whenever a higher number than 2 is employed as a divisor, as for instance 4; that is, when our specimens are divided into four classes, each of them must be distinguished by its own proper line of demarkation or definition. This however, requires two assumptions; first, that all the divisions are similar, as in Monandria, Diandria, &c.; and secondly, that the whole quantity of specimens should be submitted at once for our examination. Suppose, however, that all those four divisors were dissimilar; the first depending on color, the second on fracture, &c. as in Tetrandria, Tetradynamia, Decandria, Monadelphia, &c., then each of them will require to be distinguished by a particular line of demarka-

tion from every separate class; and consequently, under such circumstances, the number of lines of demarkation must increase, in the ratio of the squares of the number of classes or divisors that may have been employed. Again, when the whole number of specimens are not submitted to our observation, and their total amount remains unknown, should we attempt a general classification with the number 4 as our divisor, we must likewise institute a neutral class, as in the case of Criptogamia, for all those specimens, which do not come within the line of demarkation of any of the definitions. *This neutral class must therefore evidently accumulate disproportionally to each of the other classes; since its ratio of increase must correspond directly with the number of divisors, and with the number of specimens remaining undiscovered.*

If however we make use of the divisor 2, and even assume that the units composing it are dissimilar, the lines of demarkation, or the number of definitions may still be reduced to two. Now, as our object is to simplify as far as in our power, why might we not make use of one single line of demarkation between the two divisions? This would at once reduce our specimens to positive and negative quantities, and by the same means the neutral class, above mentioned, would be thereby rendered unnecessary. The existence or non-existence of a certain train of facts, is one of the most direct and powerful methods of classification that we can employ; yet however simple the proposed *plus* and *minus* arrangement may appear, we should imagine on examining the present systems of Zooloogy, that some serious obstacle had been met with to prevent its application, since I believe, there is scarce an instance to be found of its having hitherto been practised. Yet why should we stop here? As we are desirous of arriving at unity in classification by the quickest and simplest process, we can still advance some degree further towards our object? I have heretofore employed the term line of demarkation, because, in the Natural Sciences, a definition is made up of more than one term; in other words, a specimen must possess more than one peculiar quality, and sometimes a great variety of dissimilar ones are required, in order to admit of its belonging to a particular division. Now, why should we not cause the division to depend upon one isolated fact, and thereby reduce this line to a single point? By the same means, in addition to the objects sought for, namely quickness and simplicity in arrangement, we should likewise arrive at a greater degree of certainty. I have before observed, that each quality of natural specimens glides into its successor, by scarce perceptible gradations; each fact, contained in the definition, must therefore be continually varying in intensity, and consequently, *when two different individuals are called on to give*

a verdict upon more than one point, each of which vary without limit, the chances of their verdicts coinciding, will be inversely proportional to the number of such points.

One would imagine, from the general silence on the subject, that the present systems of arrangement were sufficiently correct, and that there was scarce a possibility of misapplying the definitions which are employed to separate the respective classes. This, however, is very far from being the case; indeed there is not one in which a very considerable degree of uncertainty does not prevail through its details, as is manifested in the difference of classification of similar specimens by different individuals. Were any one, in the habit of classing specimens, solely by means of those definitions, and unassisted by other associations, sufficiently candid to confess the truth, he would assure you that he was very frequently at a loss, and that he felt altogether dissatisfied, in a large proportion of instances, with the decision he was obliged to form. A specimen is discovered with the joint properties of two different classes, or it may be possessed of some intermediate betwixt them; also, it may agree with one definition in one point and with another in another. In any of these cases, different individuals, separately arranging such specimens, will place them in different divisions; and consequently, general confusion, along with an useless multiplication of nomenclature, must be the unavoidable result. Now, although this has all along been perfectly obvious, no attempt has been made to increase this certainty, by regulating the decision of individuals, when the properties of specimens, as required in the definitions, are either obscure or doubtful.

The division by 2, as I have already stated, would in a great measure remedy the defect; but even in this case, numberless instances must still occur in which a degree of doubt will be attached to the decision. I would therefore propose the following simple but effectual method, as a general and invariable rule: *When the divisor is 2, let the positive class possess a superiority over that of the negative; and generally, let each higher division, in any list, possess a superiority over the lower.* In other words, the positive quantity being superior to the negative, whenever a specimen is discovered, whose properties in the smallest degree come under the positive definition, it should be arranged with that class, no matter how much nearer, according to the opinion of the individual, it might chance to assimilate with the negative division. Also, generally, each class or division in any of the branches of Natural History, should possess a similar superiority over its successor, according to some established and recognised order.

I would earnestly desire to call attention to this and the preceding rule, impressed with the conviction, that their adoption would not only prove beneficial and important; but also, that they would

ultimately be found more extensively applicable, than even the field of our present inquiry. For the completion of our proposed object, however, they may be considered as almost indispensable. This is, to simplify and establish a general systematic nomenclature in science. Nor can this be accomplished without, in the first place, rendering as determinate as possible our methods of arrangement, by which our nomenclature must in all cases be divided. But let us now refer to the existing states of certain systems of classification, in order to observe the application of some of the above principles.

We shall first select for this purpose, one which I conceive, may be reckoned the most simple and determinate, of any that has yet been constructed; it is the alphabetical arrangement of words, as is observed in the dictionaries of different languages. This is an instance in which all the specimens or subjects are known, namely all the simple sounds, and the employment of the neutral division is in consequence here rendered unnecessary. The object in view is to class all the simple and compound sounds according as they form words, and from 30 to 40,000 are generally thereby arranged, in so simple a form, that it would almost appear to be a misapplication of the term, to denominate this a scientific classification. It must however be admitted, that an approximation even to a similar degree of simplicity, is at present, a desideratum of the utmost importance to the further progress of Natural History. The separation, indeed, cannot in this instance be advantageously performed by means of the divisor 2; but the succession of the letters being so deeply impressed on the memory, recur to it in their proper order with facility, serving at the same time, as one of the most powerful ideal chains that is employed, for the purpose of registering a given subject in the recollection. Each definition is here reduced to a single point, in a manner similar to that of the positive and negative quantities, although practice prevents our observing, in this case, the mental process required for pursuing the order of classification; and little would be wanting to render it completely determinate, were orthography reduced to settled rules, instead of depending, as now, upon custom or on derivation, which last is merely the custom of foreign or ancient nations. It may perhaps appear, on a first and casual view, that by constructing a similar alphabetical arrangement of the names, we should have at once accomplished the object we required. Now this would really be the case with regard to the *names*; but as these are totally detached from the specimens, having in rare instances the most distant relation to them, and in still rarer, carrying along with them any continued train of connection, we should by this means, only have succeeded in arranging a series of labels, leaving the specimens to which they belonged, in the exact situation

we found them; or in other words, in general and complete confusion.

It is evident, that in any of the sciences in which classification is required, all the divisions after the first-class words, such as Botany, Mineralogy, Chemistry, or the like, ought to be similar to one another; each subordinate being governed by its predecessor, in conjunction with its own co-partners. Whatever general rules are therefore applicable to one division must be consequently equally so to the whole; and whenever this line of connection is departed from in any division, it thereby becomes independent; and however minute it may be, similar by this means, to the original class words. Retaining the above remark in our recollection, we shall next proceed to inquire into the properties of the Linnæan system of Botany. This is divided into five divisions, under the respective names of classes, orders, sub-divisions, genera, species, and varieties; the third is however scarcely recognised, and the fifth is but little resorted to, for the purpose of registering newly discovered specimens. The classes are twenty-four in number. Now, I have already observed, that had we a million of subjects to arrange, and employed the divisor 2 constantly, we should arrive at unity after 23 times division. Here, however, we have 24 classes to commence with, about the same number of orders, along with an unlimited amount of sub-divisions, genera, and species, in order to divide one-tenth of the above, or 100,000 specimens.

Instead of all those 24 classes being regular and successive, we find no less than six dissimilar divisions amongst them; thus Monandria to Polyandria are similar to one another, but dissimilar to all the rest; next Didynamia to Tetradynamia; also Monadelphia to Polydelphia; then comes Syngenesia and Gynandria, which are respectively dissimilar to all the others. Again, Monœcia to Polygamia are similar to one another, but dissimilar to all the rest; Polygamia here forming what may be reckoned a neutral class to the two preceding: while Cryptogamia, the sixth dissimilar division, becomes a general neutral class, and serves as a receptacle for all residual or unarrangeable materials. By this means the same intricacy is produced, as would be occasioned by dividing the whole number by 2 for six successive times; and yet without any of its advantages, since the divisions exhibit here no relative proportion whatever in point of numbers. Now, in the first or highest divisions of any science, we have it always in our power to render them tolerably equal; but in the instance under consideration, the above does not appear to have been deemed an object of the slightest importance. Thus, the first four classes contain about an equal quantity of specimens with the fifth; the seventh and ninth respectively only contain one-fiftieth of the same, while

it would require nearly the sum of the seven succeeding classes to the fifth, in order to equal the number of its contents. The advantages we derive therefore from the classes are chiefly to be attributed to the employment of the neutral divisions, thereby arranging the whole of the known and unknown specimens, and preventing the unlimited increase of classes with an accompanying unlimited nomenclature. It must be likewise conceded to the genius of the founder of the system, that the definitive marks upon which the divisions depend, have been generally selected from the most important and invariable portions of the specimens; and that the definitions are themselves confined to as few points as the number of dissimilar divisions will possibly admit of.

We next come to the orders, or second division. These are in most respects similar, both in point of advantages and disadvantages, to those of the first division; the defects, however, which have been remarked in the latter, and which were there but slightly observable, are now sufficiently apparent, and would proceed in an increasing ratio were we to continue to practise the same system of subdivision. Passing over the inequality of the numbers of their contents, as is observed in the first regular division of the classes from Monandria to Polyandria, we arrive at the dissimilar order Gymnospermia. This is rendered indispensably necessary, on account of Didynamia being a dissimilar class; in consequence of which, the latter now becomes virtually as independent of the others, in all subsequent rules and divisions, as takes place in any of the larger and dissimilar divisions of Natural History. Here, therefore, at the very commencement, and when we have only reached the second division, the great variety of dissimilar orders originating in dissimilar classes, renders it sufficiently obvious, that it would be impracticable to carry this plan of division, with regularity, to a much greater extent*. The

* Although my remarks are intended to be completely general and unconfined to any particular branch of Natural History, it may serve as an illustration of the reasons contained in the previous pages, to offer the following proposal, for the improvement of certain of the classes and orders. Suppose that the class Didynamia was amalgamated with Tetrandria, and again subdivided by the proper orders of the latter. It is evident that in this case, should we find it necessary to separate the two, and that this could only be judiciously performed by the course adopted in the class Didynamia, we should be enabled to effect a similar arrangement, through the operation of the third order, or subdivisions. By this measure, one dissimilar class with its dissimilar orders would be got rid of, while the same genera and species would be ultimately reproduced, if required, by merely causing a small alteration in the arrangement of the subdivisions. Now, if this is admitted, the class Tetradynamia could, by the same method, be made to constitute a portion of Hexandria; its orders remaining regular, and its subdivisions only requiring a little revisal. Upon the same principle also Monadelphia, Diadelphia, and Polydelphia might be dispensed with, serving respectively to increase the classes Dodecandria and Polyandria; Hexandria and Polyandria. Again, by

chief benefit indeed resulting from the orders, is in consequence of the neutral class, by which their numbers become limited; they being so contrived as to include within their definitions, both the discovered and undiscovered specimens.

With the division of orders may be said to terminate the Linnæan system, and from this point the whole rapidly degenerates into the utmost confusion. The subdivisions are, as I have already remarked, scarcely recognised; indeed they possess few pretensions to be so, on account of their general irregularity; separately, they have received no names similar to those of the foregoing divisions. Their definitions are likewise arranged without any rule, and only resorted to, when the superior division happens to be larger than ordinary; while no attempt is observable, nor the slightest desire indicated, of forming a similar succession of subdivisions throughout the different orders. The only advantage to which they can lay claim, results, as in the orders, from the employment of the neutral division: for they are also constructed, so as to include the whole number of specimens, and therefore, no new ones can be constituted, according to the will or caprice of individuals.

We have now arrived at the most important of the divisions, the genera, since it is to them that the principal portion of the name has been appended. On examination, we find them in as complete a state of confusion, as they could well be; and were I called on to define the present meaning of the term genus, I would denominate it, *a division of the orders or sub-divisions, by means of definitions, constructed without the slightest vestige of regularity, according to the fancy of different individuals, who have thus grouped them from some ideal resemblance or dissimilarity, which could be subjected to no established rule.* We are likewise here deprived of the benefit of the neutral division, and hence new genera are constantly starting into existence, under the denomination of Jobsonias, &c. the original creations of those, who have discovered specimens of doubtful or undefined characters, and who

the institution of a regular neutral class which should have no stamens, along with a neutral order without pistils, provided we could give at the same time a plausible account of what we understand by the class Cryptogamia, we should succeed in abolishing the classes Monœcia, Diœcia, and Polygamia, along with Gynandria. By means of this, the male and female plants would be arranged under different classes; the former occupying its proper place in the regular classes, its particular constitution being indicated by its belonging to a neutral order; whereas, the latter would belong to the neutral class, and its relation to the male would be indicated through the joint influence of its orders and subdivisions. We should thus have a succession of regular classes and orders, with the exception of the compound class Syngenesia, and the obscure class Cryptogamia, in both of which some new organization would be attended with manifest advantage.

have adopted this mode of registering, in the books of science, the debt due to them by the public.

The definitions are generally made up of three or four dissimilar points. Now, it is evident, that the more points that are required to be present, the smaller must be the number of specimens contained within that particular genus; and should the same course be persisted in, the larger must be the number of genera, and the greater the chances of confusion, in consequence of obscurity occurring in any one of the points so employed. The proportion in the above instance, will likewise be found to proceed, in the enormous ratio of the squares of the sum of such points. Suppose, however, we had at length come to the laudable resolution, of preventing a further increase to the number of genera, by the institution of the neutral class; although we still continued to retain the four dissimilar points, which composed our definition. We, therefore, should have in this case, to form fifteen neutral classes for each genus so instituted; or in other words the square of the sum of the points *minus one*, that being the amount of variations which can possibly take place amongst that number of points.

The genera being arranged according to no established order, their classification becomes similar in a great measure, to the indiscriminate registering of individual specimens; and consequently, when it is required to be ascertained to which genus a given specimen may belong, the whole of the genera composing the order or sub-division must be ransacked, before we can settle with accuracy, the division to which it ought most properly to be posted. In this respect, the genera closely correspond with the next class, the species, which may perhaps be improperly denominated a scientific division; since it is merely a minute register of the units composing the genera, arranged generally accidentally, or according to the order in which these may have been first discovered. The consequence is, that on account of the total want of a systematic division, along with an established order of arrangement, the most minute and extended details in these descriptions, are rendered indispensable; while the greater proportion must become altogether unnecessary, so soon as a ray of truth has been able to penetrate the clouds, with which this, and the sister sciences are at present surrounded.

We have before remarked, that the principal name of a specimen is attached to the genera; and we have also recognised as an axiom, that as all subdivisions of classes, after the first class-word, are, or ought to be similar, whatever general rules are applicable to one, are, or ought to be, likewise applicable to the whole. Hence, therefore, the word Parkinsonia ought to bear the same reference to the genus of that name, as does Monandria to its respective class; and small as this step may at first appear, it will ulti-

mately be observed, to constitute an important basis for the foundation of a regular and systematic nomenclature. We shall next assume, as a self-evident proposition, that the name should present some fact or quality in the class or specimen; since the opposite idea is so clearly absurd, that it would be an useless waste of argument, to attempt its refutation. With the above premises, we are at last prepared for the solution of the highly important problem, viz. *what is the property, in a given specimen, which is to be selected, for the purpose of becoming its name?* It is clear, that we must settle this point in a satisfactory manner, previous to an examination of the merits of the languages in which we are to express the idea, after it has been so discovered; namely, whether we should choose for this purpose a modern language, such as French, English, Dutch, Russian, or Celtic; or whether we ought not rather to give a preference to the ancient languages, such as Greek, Latin, Hebrew, Arabic, Sunscrit, &c.

We shall again assume, that we have fixed on this same point by which the name is to be determined. We may select, for this purpose, the class Monandria, and we shall suppose, that having discovered a blue color prevailing throughout its contents, we accordingly have affixed to it the name of Iodine. The first observation that here presents itself relates to the ideal chain before mentioned; for having now selected the point of color for the name, if we desire to render the whole throughout either successive or determinate, we must restrict ourselves to the same description of points, for the appellations of the remaining number of the classes. But it is evident that we have given ourselves and others, in this instance, a great deal of unnecessary trouble; since the class Monandria is separated from that of Diandria, not by means of its color, but from the number of stamens; by this means, therefore, after having formed our systematic division by one point, or set of points, we should have immediately proceeded to register it in the memory by means of another.

Now, we have here taken for granted, that the points, on which the division or classification depends, coincide in every respect, with that which has been selected to constitute the name; in other words, that the blue color pervades the whole, and only the whole of the class Monandria. But to discover two such points amongst known and unknown specimens, is, as a general rule, altogether as impossible, as to find two leaves, which in every respect correspond with one another. We are consequently left to choose between two alternatives; we may either give a false name to those specimens in which the points do not coincide, or we must give two or more names to the same class or division. Should we prefer the former, attaching to the specimen a name which ought not to belong to it, the mind would soon cease to recognise in it

the original signification of the term; nor would it inquire, in the instance above proposed, as to whether the plant was blue or red; but would ascribe to it, its true signification in this particular example, namely, that the class was possessed of only one stamen.

But this proposal must be altogether incompatible with the idea of constructing a regular, systematic, and determinate nomenclature; and it must consequently be rejected. We should therefore be obliged to adopt the latter; or in other words, the blue color not being found an invariable quality pervading the whole class Monandria, we should require to assign to it different appellations, such as those of Iodine, Chlorine, &c. Now it is obvious, that we here form divisions of this class, by means of the point color; in a similar manner to what is effected, through the number of the pistils, in the second division, or orders; the name becoming thereby, the representative of the point contained in the definition. Hence, therefore, no other point, save that of the number of stamens, can be so properly selected, to constitute the name of the class Monandria; and *generally, the point taken to represent the name of a given division, in any science, must be selected from one or other of those composing its definition.*

Accordingly, the names of the genera Haselquistia, Messerschmidia, Scheuchzeria, &c. ought therefore to represent one or the whole number of points, composing their respective definitions. Now as one of the first objects proposed has been an increased degree of simplicity, we should be able greatly to reform these by merely halving, quartering them, &c., until we at length arrived at a single letter each; which single letter, would constitute an equally correct symbol, to represent the things required, namely, the point or points contained in their definitions, as the more extended names of Haselquistia, Messerschmidia, Scheuchzeria, &c.; for the proper pronunciation of which, the articulating organs of the British islanders, have been somehow but imperfectly adopted.

We shall therefore next assume, that we have selected the letters of the alphabet, so far as their numbers will admit, to represent, in their proper order, the different genera, commencing with the class Monandria. For reasons which will speedily be apparent, we shall at first restrict ourselves to the consonants; that is, we shall give to the first genus, in the first order of Monandria, the name *b*, the second *c*, and so on. Now it is evident, that we have by this means obtained a perfect ideal chain, perhaps one of the most perfect that can be constructed: we have likewise selected the simplest appellation in our possession; since an alphabet is understood to be the eventual result of an analysis of sounds, after having been reduced to their lowest denominations. Here the letter *b*, would serve to represent all the points contained in the definition of the first genus, in the class Monandria; and by re-

calling this name, the mind must entertain a distinct or confused idea of the division registered in the memory; first, in proportion to the regular and successive arrangement of such points; and secondly, in proportion to the regular and successive arrangement of the division named.

By the above plan, however, it may be observed, that we have been attempting to record the units of genera, as if they were several class-words; and totally independent on any higher division, such as the subdivisions, orders, and classes. We shall here refer to Lavosier's system of Chemistry, for the purpose of investigating this subject. Through means of his arrangement, we clearly understand that the joint words "Sulphurite of Iron" represent a certain combination of Sulphur with Iron; the name being determinate so far as it is compound; while some idea of the nature of the salt presents itself to the imagination, from our previous acquaintance with the nature of the simple substances entering into its composition. We are however prevented from proceeding further in this our analogy; for if we examine the names of these two simple substances, with the exception of their terminations, we should be obliged to consider them as equally objectionable with the generality of those, which have been introduced into Botany. Now, if we observe the name Monandria Monogynia, it may be perceived, that it is similar, in its respective science, to the name of the salt which we have just mentioned; so also is that of Rosa Centifolia; although perhaps, on a second examination, the two last might be observed to indicate somewhat different qualities from those understood by the former. They, however, all agree in one most important point; for each name describes, with greater or less degree of accuracy, the position of the specimen in the adopted system of classification. Let us therefore now employ the same method, in our construction of a determinate nomenclature; that is, *let each name describe, with an equal degree of accuracy to that employed in our previous arrangement, the exact position of the specimen in the established system of classification.*

In order to carry the above into execution, we must first proceed to reform the names of the classes and orders; rendering them simple and successive, according to the method proposed with regard to the different genera. We shall accordingly assign to the classes the names of the capital consonants B, C, D, F, &c., agreeable to their respective rank in the Linnæan system; we shall likewise attach to the orders, in the same manner, the names of the small vowels, a, e, i, o, &c.; employing the double and diphthong letters when required, for the purpose of supplying the number that may be necessary. It will be obvious then, that the two letters, or the syllable 'Ba,' will by this means represent the

whole that is comprehended by the more lengthened expression of Monandria Monogynia; namely, that the specimen belongs to the first order of the first class. Let us next assume, that the subdivisions have been properly established and recognised; and also, that they are designated respectively by the letters l, m, n, &c. We shall likewise give to the several species the same names as those of the orders; resorting to the employment of double letters, diphthongs, or even to consonants, wherever the higher numbers may be called for. Here therefore the name 'Bal' will clearly represent the first subdivision of Monandria Monogynia; and Balba will equally represent the first species, in the first genus, in the first subdivision, in the first order of the first class of the Linnæan system. One point more yet requires to be determined; namely, to what science this name may belong; and we must therefore append to it some termination, such as 'na,' or Balbana, in order to indicate its being the name of a plant, and to distinguish it from that of an animal or mineral. The name 'Dombina' will in the same manner represent the third species of the second genus, in the second subdivision of Tetrandria Tetragynia; the termination 'na' becoming the symbol of the class-word, indicating thereby, its relation to the department of Botany.

I have now, I trust, described with sufficient perspicuity, the method by which a simple, determinate, and successive system of nomenclature may be constructed; without, at the same time, attempting to conceal the difficulties which previously require to be surmounted. I conceive I have likewise satisfactorily demonstrated, that it was far from chimerical the idea of constructing a plan of nomenclature, such, that *an individual, who might in one country discover a new chemical substance, Mineral, Plant, Insect, or other Animal, should be enabled, by means of the System, to give to it the self-same appellation that another individual, having no communication with the first, would have assigned to it, had he discovered its co-partner in any other part of the world.* It therefore only remains for me to subjoin a few cursory remarks on some of the sciences, in order to shew the extensive application of several of those propositions which I have already had the honor to bring forward.

It may perhaps appear somewhat strange, that my attention was first directed to the foregoing reasoning on general systematic arrangement, not from its immediate application to the science of Botany, but in consequence of observing the unlimited differences which occur, in the decisions of separate judges, regarding legal interpretations. Allowing therefore, that mankind continued to entertain the idea, that right, law, and custom were, in some respects, nearly synonymous; still, a simple and regular method of registering precedents would constitute an important desideratum,

both for the purpose of facilitating the acquirement of the legal profession, and also to insure an increased degree of certainty, throughout judicial proceedings.

This being an instance in which the number and variety of the subjects remain unknown, it becomes consequently necessary to employ the positive and negative method of division; yet the advantage to be derived from this arrangement, would be greatly modified, unless at the same time accompanied with the other proposal of investing each higher term in the series, with a superiority over its successor. In other words, the case, by the first proposition, would become reduced to the *argumentum crucis;* while, by the effects of the second, the positive or defined side of the question would alone require to be accurately investigated. By this means also, a regular and determinate analysis would take place in each case submitted for decision; the succeeding fact being always influenced by its predecessor, and the systematic division, whatever that may be, constituting invariably the line of evidence. A judge therefore, would only stand in need of common sense to direct his decisions, instead of requiring as now, a protracted attention to legal lore, until the mental faculties almost cease correctly to recognise the distinction existing betwixt truth and error. Legal language would also become brief and determinate; each legal document, henceforth constituting a series of definitions, arranged in regular and successive order.

In Mineralogy, a great variety of systems of classification have been attempted to be introduced; each author generally producing one according to his own fancy; nor does it appear, that any one of those original contrivances have exhibited much superiority over the other. The same evils, which have occurred in Botany, have likewise extended themselves to this science; varieties have been elevated to the rank of species; and species to that of genera; while the same absurd nomenclature has been adopted by those who may have been the foremost to call attention to their existence. At one time, it seems to have been anticipated, that the details of Crystalliology would have afforded a determinate and simple mode of arrangement of its numerous specimens. Subsequent observations, however, have now, I conceive, proved its inefficacy as a general divisor; since, although combinations of simple substances, in similar proportions, will exhibit after Crystallization, similar figures; yet, the most minute differences in those proportions, occasion so extensive a difference in the characters of the Crystals, as to produce the widest separation amongst those substances, which evidently ought to be closely assimilated with one another.

But why seek for other divisors, possessed as we are of the most certain and determinate ones, however neglected they may have hitherto been permitted to remain, by the admirers of that

phantom—a natural arrangement? Although separated from it by our systematic division, Mineralogy must ever be intimately connected with Chemistry; if it should not eventually constitute one of its principal branches. Why not therefore arrange the specimens, in the first place, as in Saline Compounds, according to the simple substances entering into their composition; and making use of the more permanent discriminating marks now employed for the higher classes, in order to constitute divisors for the subordinate ones? The nomenclature should evidently be constructed upon principles similar to those proposed for Botany; not according to that already introduced into Chemistry: since, as we have before observed, the names of the simple substances in this instance are, with the exception of their terminations, equally objectionable with those that have been adopted in the less determinate sciences. The nomenclature of Mineralogy, however, stands evidently most in need of reformation; and in our attempt to accomplish this, it would likewise appear advisable to pave the way towards similar improvements, in the more advanced science of Chemistry.

As an aid or preliminary to Mineralogy, it would appear to me, that this science stood much in need of a regular system and nomenclature of colors; the only one in existence being a miserable attempt on the part of Werner, which evidently evinces, that this industrious and learned individual could never have contemplated the possibility of constructing, either a determinate arrangement or nomenclature, in any of the departments of science. Since we possess, in this case, nearly the same *data*, as in the alphabetical arrangement before alluded to; all the simple colors being given, while their compounds only require to be arranged; no apology can therefore be alledged, for leaving the classification indefinite, and the nomenclature to the wayward fancies of individuals. Chemistry has already furnished us with those simple substances, of sufficiently determinate qualities; it is evident, that on the proportions being established, the same color may be produced by different individuals, whether the substances selected, should be in mass, powder, or in solution.

Let the vowels therefore be made the symbols of these simple colors, arranging them so as to form words, according as their quantities may predominate; or where their proportions are equal, let them take precedence, according to the order of those vowels, by which they may be respectively represented. The consonants, in the same manner, should represent respectively, either tenths or twentieths of proportional quantities, according as accuracy may be required; or should it be deemed necessary to denote hundredth parts, two letters instead of one must be employed; a termination being in this case selected, indicating that the word so constructed, is the representative of a color. At present the qua-

lity of color forms but an imperfect definition for the discrimination of different minerals, the greater proportion being composed of more than one; each of these being generally disunited, and imperceptibly shading into one another; while no attempt has yet been made in our systems, to establish the result of their combinations. A more important advantage would however be derived from a classification of colors, since a basis would thereby be prepared for the construction of a system and nomenclature of soils. Little comparative attention has hitherto been paid to this subject, notwithstanding its important influence, as regards the Animal, Vegetable, and Mineral kingdoms; indeed, until it has undergone minute investigation, one can scarce be induced to believe, that a proper commencement has been as yet given to the science of Botany.

The next branch of science, which would be materially affected by the previous proposals regarding nomenclature, is that of Anatomy, which may be considered to constitute the rudiments, or chief foundation of Zoology in all its branches. This science has only been yet minutely investigated with regard to the genus Man; while, as an extended science, embracing generally the Animal kingdom under the denomination of Comparative Anatomy, it must be considered, at present, as merely in its infancy. Eager as has been the search, and numerous the inquirers, regarding the constitution of Man, with a view towards relieving him from the various diseases to which he is liable; our progress has been scarce commensurate to the zeal with which the science has been prosecuted. We would appear to have met with some sudden and almost unsurmountable obstruction; feeling conscious, with respect to the nervous system, and the completion of the train of circulation, that we are yet very remote indeed, from an acquaintance with those laws, by which our frames are regulated.

It has frequently occurred to me, that this has been in a great measure occasioned by the course we have adopted in restricting our investigations to one insulated genus, instead of extending the field of observation to the lower orders of the creation. The mode which Nature appears to have selected to accomplish her object, is observed to be simplest in the lowest of her orders, becoming complicated as she rises in the scale of intellect; until last of all, we arrive at Man, who, for wise purposes, has been placed at an enormous distance from the other individuals inhabiting this our planet. On commencing the study of the Mechanical Sciences, the student generally begins with the simplest of the pieces or movements, gradually rising, as he increases in information, to those which are more complicated. What idea would be communicated to a person, not having been thus initiated, were we to introduce him at once to all the intricacies of the Steam Engine, or to that

for the construction of Blocks, at Portsmouth? Yet has not this been the course adopted with regard to Anatomy and Physiology; where, instead of tracing Nature's progress gradually through her inferior productions, we have proudly attempted to penetrate her loftier secrets, and enter within the noblest of her terrestrial palaces?

The want however of an established system of nomenclature, along with the overweaning desire, resulting from it, of giving undue importance to insignificant minutiæ, has likewise tended, in a great measure, to obstruct the progress of Anatomy. At present Man, as regards the names given to the different parts composing his structure, may be considered as a walking Westminster Abbey, or as a living monument of the ambitious dead. But I must have very imperfectly explained myself, if it does not appear sufficiently evident, that my previous proposals regarding nomenclature are applicable to this science; perhaps more extensively so than to any other.

I will not therefore continue to occupy your time with useless recapitulations; but shall here conclude this letter by claiming through you, from the INSTITUTE OF PARIS, a candid verdict on the merits and advantages which may be likely to result from the adoption of my several proposals.

I have the honour to be,
Sir,
Your most obedient Servant,
JOHN HENDERSON.

JUANPORE,
Nov. 1st, 1831.

FINIS.

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